The Mining Journal,

RAILWAY AND COMMERCIAL GAZETTE:

FORMING A COMPLETE RECORD OF THE PROCEEDINGS OF ALL PUBLIC COMPANIES.

[The MINING JOURNAL is Registered at the General Post Office as a Newspaper, and for Transmission Abroad.]

No. 2286.—VOL. XLIX. LONDON, SATURDAY, JUNE 14. 1879. [WITH SUPPLEMENT.] {PRICE ..... SIXPENCE {PER ANNUM, BY POST, £1 4s

MR. JAMES H. CROFTS, STOCK AND SHARE BROKER AND MINING SHARE DEALER,
No. 1, FINCH LANE, CORNHILL, LONDON, E.C.
ESTABLISHED 1842.

BUSINESS transacted in all descriptions of MINING Stocks and Shares (British and Foreign), Consols, Banks, Bonds (Foreign and Colonial), Railways, Insurance, Assurance, Telegraph, Tramway, Shipping, Canal, Gas, Water, and Dock Shares, and all Miscellaneous Shares.

BUSINESS negociated in Stocks and Shares not having a general market value.

Every Friday a general and reliable List issued (a copy of which will be forwarded regularly on application), containing closing prices of the week.

MINES INSPECTED.

BANKERS: CITY BANK, LONDON; SOUTH CORNWALL BANK, ST. AUSTELL.

SPECIAL DEALINGS in the following, or part:—

50 Chapel House, £1 7s 6
25 Colorado, £1 11s. 3d.
10 East Van, £1 15s.
20 Eberhardt, £3¼.
50 Frontino, £2 2s. 6d.
10 Gt. Laxey, £16.
25 Herodsfoot, £3.
50 Javali, 7s.
25 Leadhills, £2½.
10 Llanrwst, 10s.
20 Morfa Du, 18s.
75 Penstruthal, 2s. 9d.
100 Pestarena, 3s. 6d.
25 Parys Corporation, 10s
10 Richmond, £8¼.
5 Santa Barbara, £2½.
20 St. Harmon.
10 Tankerville, £3¼.
50 Van Consols and Glyn Amalgamated, 10s 6d
25 W. Assheton, 18s. 9d.
10 Wye Valley.

*** SHARES SOLD FOR FORWARD DELIVERY (ONE, TWO, OR THREE MONTHS ON DEPOSIT OF TWENTY PER CENT.

RAILWAYS—SPECIAL BUSINESS.
FOREIGN BONDS—SPECIAL BUSINESS.
Fortnightly accounts opened on receipt of the usual cover.
JAMES H. CROFTS, 1, FINCH LANE LONDON.
ESTABLISHED 1842.

MR. W. H. BUMPUS, STOCK AND SHARE BROKER, AND MINING SHARE DEALER,
44, THREADNEEDLE STREET, LONDON, E.C.
ESTABLISHED 1867.

BUSINESS transacted in STOCK EXCHANGE SECURITIES and MISCELLANEOUS SHARES of every description.
RAILWAYS, BANKS, FOREIGN and COLONIAL BONDS, TRAMWAYS, TELEGRAPHS, and all the LEADING INVESTMENTS,
Accounts opened for the Fortnightly Settlement.
A Stock and Share List free on application.

MR. BUMPUS has SPECIAL BUSINESS in the undermentioned:—

10 Aberllyn.
100 Blue Tent, £2.
50 Birdseye, 11s. 6d.
60 Bodidris.
40 Colorado, 32s. 6d.
5 Cape Copper, £28¼.
20 Chapel House.
2 Carn Brea, £26¼.
40 Canada Gold.
15 Devon Consols, 38s.
75 Don Pedro, 19s. 6d.
3 Dolcoath, £26¾.
15 East Pool, £93¾.
25 East Van, 31s. 6d.
20 Eberhardt, £3 6s. 3d.
40 Frontino, 41s. 6d.
10 Great Laxey, £16¼.
25 Great Holway.
100 Glenroy, 8s.
50 Hultafall.
25 Herodsfoot, £3.
70 Javali, 6s.
50 Kapanga, 5s. 6d.
40 Lead Era.
15 Llanrwst, 7s. 6d.
25 Leadhills, 40s. 6d.
30 Marke Valley, 13s. 6d.
25 Morfa Du, 17s. 6d.
20 Mellanear, £3 13s. 9d.
70 Nouveau Monde.
30 New Quebrada, £2 3 9
100 Penstruthal, 2s. 6d.
70 Parys Corpora., 9s.
150 Pestarena.
50 Port Phillip, 9s. 6d.
15 Roman Grav., £8¾.
10 Richmond, £8¼.
40 Santa Barbara, 41s.
20 So. Frances, £8 18s 9d
10 So. Condurrow, £11¾
5 Van, £17¼.
15 Wheal Peevor, £10¼.
20 Yorke Peninsula Preference, 14s. 3d.

MINES.—Many good purchases may now be made, especially in Tin and Lead Shares, some of which (now returning good dividends) are likely to have a considerable rise, besides paying exceedingly well as an investment. Shares in several SOUND PROGRESSIVE MINES may also be secured now on favourable terms, and will probably double their present value within the next few months.
A carefully selected List on application.

SPECIAL BUSINESS, at close prices, in the SHARES of all the principal HOME and FOREIGN MINES.

A complete and reliable List of all the Leading Investments (published on the first of each month) may be obtained free on application to

WILLIAM HENRY BUMPUS, SWORN BROKER,
Offices: 44, Threadneedle Street, London, E.C.
BANKERS—The NATIONAL PROVINCIAL BANK OF ENGLAND, E.C.

MESSRS. JONES AND HOUSTON, 25, CROSBY HALL CHAMBERS, LONDON, E.C.
STOCK AND SHARE DEALERS AND GENERAL MINING AGENTS,

Are in a position to DO BUSINESS most advantageously in the following properties:—

BRYN GLASS (Silver-Lead).—The prospectus of this valuable Mine is almost completed, the principal directors having been appointed, and shares are applied for eagerly. We can recommend it to our clients with confidence.

CWM BRWYNO is progressing satisfactorily, and we shall be happy to treat as Buyers or Sellers of the shares.

PANT-Y MWYN.—There is a great improvement in this mine with the return of more propitious weather, and we learn operations are progressing satisfactorily.

RHYDALUN is steadily working, and will bear out all our previous reports on its merits and claims as an investment. A few shares are to be had at £11 5s.

We shall be pleased to supply any further information touching the above or any other properties on application.

Bankers: London and Provincial.

MR. E. J. BARTLETT, BRITISH AND FOREIGN STOCK AND SHARE DEALER,
No. 30, GREAT ST. HELEN'S, LONDON, E.C.

Just out,
"HOW TO INVEST," post free, One Shilling, Twelfth Edition, enlarged.

MESSRS. J. TAYLOR AND CO., MINING ENGINEERS AND INSPECTORS,
56, LONDON WALL, LONDON, E.C.,
Have Agents in England, Scotland, Wales, and on the Continent.
FOR SALE, VIKNEBERG SHARES, at 30s. per share.

MR. JOHN BATTERS, STOCK AND SHARE DEALER, transacts Business in Stock Exchange and Mining Securities.
Special information to Investors in Lead Mines, also in Swedish, Canadian, and other securities. 4, AUSTINFRIARS, LONDON, E.C.

MR. W. MARLBOROUGH, STOCK AND SHARE DEALER,
29, BISHOPSGATE STREET, LONDON, E.C. (Established 23 Years),
can SELL the following SHARES at prices annexed:—

50 Antioquia, 10s.
20 Blaen Caelan, £3.
40 Colorado, £1 16s.
20 Cakemore, £3¼.
40 Cambrian, £1 9s.
50 Cwm Brywno, £2.
30 Chontales, 3s. 6d.
40 Devon Cons., £1 19s 3
100 Don Pedro, 19s. 9d.
15 East Van, £1¼.
20 Eberhardt, £3 7s. 6d.
60 Exchequer, 4s. 6d.
20 Frontino, £2 6s. 3d.
15 Frongoch, £2.
25 Gorsedd, £2 1s. 3d.
15 Grogwinion, £2¾.
25 Herodsfoot, £2¾.
10 Hornachos, £5.
75 Javali, 7s.
20 Leadhills, £2.
50 Last Chance, 9s. 9d.
20 Lead Era.
20 Monydd Gorddu, 40s.
20 Morfa Du, 16s. 3d.
20 New Quebrada, £2¼.
60 Pandora, 7s.
100 Port Phillip, 9s. 6d.
100 Pestarena, 3s. 6d.
50 Penstruthal, 2s. 9d.
10 Rhydalun, £11 10s.
10 Richmond, £8 1s. 3d.
25 Rookhope, 4s.
10 Roman Grav., £8 15s.
200 Rossa Grande, 1s. 9d.
25 Talybont, 14s.
15 Tankerville, £3 11s 3d
50 Tamar Sil.-Lead, £1½
5 Van, £18.
200 Victoria (London) Mining Company, 6s 6d. (cum div.)
20 W. Wh. Peevor, £2 5s

BUYER of 60 Wheal Crebor and 50 Bodidris.
Shares Bought and Sold at net prices. Telegrams promptly attended to.

UNITED STATES AND COLONIAL MINES.
IMPORTANT INFORMATION REGARDING THE ABOVE.
BUYER and SELLER of SHARES at the close Market Price of the day.
SHAREHOLDERS and INVESTORS may rely on all business being punctually and faithfully carried out.
A DAILY LIST OF PRICES sent (free) on application, either personally or by post. BANKERS: The ALLIANCE BANK (Limited).
MESSRS. PETER WATSON AND CO.,
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BRITISH AND FOREIGN MINES.
SHAREHOLDERS and INVESTORS desirous of PURCHASING or SELLING SHARES in COPPER, TIN, LEAD, GOLD, or SILVER MINES can do so at market prices, and obtain information regarding the same on personal application, or by letter, of—
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54, OLD BROAD STREET, LONDON, E.C.
Telegraphic Messages punctually attended to.

STOCK AND SHARE MARKETS.
Prices of STOCKS and SHARES in RAILWAYS, BANKS, ENGLISH and FOREIGN GOVERNMENT SECURITIES, GAS, MINES, INSURANCE, and other Stock Exchange Securities, and various important information telegraphed instantaneous from the STOCK AND SHARE MARKETS direct into the offices of—
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SAFE PERMANENT, PROFITABLE, AND PROGRESSIVE INVESTMENTS in RAILWAY DEBENTURES, TRAMWAYS, and HOME MINES.
Advice given, and business done on best terms at net prices.
ALFRED E. COOKE, STOCK AND SHARE DEALER,
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(ESTABLISHED 1853.)
Speculative accounts opened for fortnightly settlement on receipt of deposit.

STOCKS AND SHARES,
FOREIGN BONDS, TELEGRAPHS, TRAMWAYS, RAILWAYS, AND OTHER LEADING SECURITIES.
MR. JAMES STOCKER, STOCKBROKER,
2, CROWN COURT, THREADNEEDLE STREET, LONDON, E.C.
[Established 1848.]
BUSINESS in the FOLLOWING:—

Great Laxey.
Herodsfoot.
Leadhills.
Ottoman Bank.
Parys Mountain.
Roman Gravels.
South Frances.
Wheal Peevor.
West Assheton.
Colorado.
Chontales.
Don Pedro.
Eberhardt.
Frontino.
Hultafall.
Hudson's Bay.
Last Chance.
Panuicilio.
Port Phillip.
Richmond.

BANKERS: LONDON AND WESTMINSTER.

FERDINAND R. KIRK, 5, BIRCHIN LANE, LONDON, E.C.
FORTNIGHTLY ACCOUNTS opened, on receipt of the usual "cover," in Railways Home and Foreign, Mining Shares, Foreign Bonds, and certain Miscellaneous Securities.
"THE WEEK."—A SEPARATE EDITION from that which appears in the *Mining Journal* is published every Wednesday evening, containing "Notes and Hints on the Stock Markets," with Closing Prices. May be had on application.
Bankers: London and Westminster, Lothbury.

WILLIAM GABBOTT, STOCK AND SHARE DEALER,
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Business transacted in British and Foreign Government Securities, Railways, Banks, Insurance, Telegraph, Tramway, Miscellaneous, and Mining Shares.
*** COED MAWR POOL MINE.—WILLIAM GABBOTT has SPECIAL BUSINESS in these shares. The mine is undoubtedly one of great promise. It is a proved mine, rich in depth, can be worked cheaply, and it is fully believed will pay early dividends.
Bankers: The National Provincial Bank of England.

MR. T. E. W. THOMAS, STOCK AND SHARE DEALER,
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Will SELL the following SHARES at prices quoted:—

East Van, £1 10s.
Glenroy, 8s.
Herodsfoot, £2 7s. 6d.
Hultafall, £1 17s. 6d.
Leadhills, £2.
Marke Valley, 12s.
Morfa Du, 17s.
Roman Gravels, £9.
South Frances, £8 17s 6
Tankerville, £3 10s.
Tincroft, £9 10s.
West Chiverton, £1¾.
West Frances, £5 12s 6
West Peevor, £2 2s. 6d.
Wheal Crebor, £1 10s.
Wheal Peevor, £10,

NOTICE OF REMOVAL.
MR. JOHN B. REYNOLDS, STOCK AND SHARE DEALER, has REMOVED from 70 and 71, Bishopsgate-street Within, to
37, WALBROOK, LONDON, E.C.

MESSRS. EKINS AND CO., STOCK AND SHARE DEALERS,
14, QUEEN VICTORIA STREET, LONDON, E.C.
Bankers: Metropolitan.

MESSRS. ENDEAN AND CO., 85, GRACECHURCH STREET
LONDON, E.C., STOCK AND SHARE DEALERS.
Established in 1851.
Bankers: Barclay, Bevan, and Co.; and London and Westminster Bank, Lothbury.

MR. JOHN L. M. FRASER
(Fourteen years at the Great Minera Mines),
CONSULTING MINING ENGINEER—SECRETARY AND AUDITOR—ROYALTY AND MINERAL ESTATE AGENT—SHAREDEALER.
MINES, MINERALS, AND MACHINERY BROKER,
GREENFIELD HOUSE, WREXHAM,
Specially recommends for investment and rise in price,
BRITISH SILVER-LEAD, 10 per cent. preference.
PANT-Y MWYN—PLAS DDU.
Rich courses of ore are proved, and increasing in depth.
LEAD ERA.
Inspection is earnestly desired.

MR. DAVID COWAN,
CONSULTING MINING AND MECHANICAL ENGINEER,
AND LICENSED VALUATOR,
58, RENFIELD STREET, GLASGOW.
Investigations, Reports, and Valuations made of Coal, Iron, Slate, Pyrites, and other properties at home and abroad. Enquiries for Road and Railway Materials, Mining Plant, Pipes, Castings, &c. Plans, &c., of the most modern and economical mining appliances, fittings, and arrangements.
I have been long acquainted with the principal Coal and Ironworks in the North, with the Slate Quarries in North Wales, and for many years was Chief Engineer of the Tharsis Mines, Works, and Railway in Spain.

THE "DIFFERENTIAL" PUMPING ENGINE (DAVEY'S PATENT),
FOR
DRAINING MINES, WATER SUPPLY OF TOWNS, IRRIGATION, SUPPLYING DOCKS, PUMPING SEWAGE, and GENERAL PUMPING PURPOSES.
HATHORN, DAVEY, AND CO.,
LEEDS.
HATHORN, DAVEY, and Co. have Patterns of "Differential" Engines of all sizes, from 5 to 500 horse power, and have facilities for supplying very powerful Engines and Pumps at a short notice.
See Illustrated Advertisement every alternate week.

MR. CHARLES THOMAS,
MINING AGENT, STOCK AND SHARE DEALER,
3, GREAT ST. HELEN'S, LONDON, E.C.

MR. ALFRED THOMAS,
MINING AGENT, AND STOCK AND SHARE DEALER.
10, COLEMAN STREET, LONDON, E.C.
Just published.
"HOW TO TAKE ADVANTAGE OF THE COMING RISE IN PRICES."
By ALFRED THOMAS, 10, Coleman-street, E.C.
Will be forwarded to Investors upon application.

MR. EDWARD ASHMEAD, 62, CORNHILL, LONDON,
LONDON MINE AGENT, ACCOUNTANT, AND AUDITOR.

ABBOTT AND CO.,
STOCK AND SHARE BROKERS,
9, UNION COURT, OLD BROAD STREET, E.C.

MR. THOMAS THOMPSON, JUN., STOCK BROKER,
1, PALMERSTON BUILDINGS, BISHOPSGATE STREET,
LONDON, E.C.
Mr. THOMPSON transacts business in every species of Stock Exchange and Mining Securities.
Mr. THOMPSON affords reliable information to investors, and can give, when desired, a list of first-class Stocks and Shares, yielding 4 to 10 per cent. dividends upon present prices.
Mr. THOMPSON'S weekly Circular may be had on application.

SITUATION WANTED.—CAPT. F. BENNETT, who has been engaged for the last Twenty-four Years (Eighteen as Agent and Six a Manager) in the Knockmahon Mines, co. Waterford, Ireland, is just DISENGAGED, the Mine having ceased working. He is now open to an ENGAGEMENT to FILL a SIMILAR SITUATION, and he is also prepared to INSPECT and REPORT on MINES or MINING PROPERTY in Ireland, or elsewhere.
For reference, apply to WM. HAROLD, Esq., Secretary, Mining Company of Ireland, 30, Lower Ormond Quay, Dublin.
Address, Knockmahon House, Boumahon, Piltown, Ireland.

FOR SALE, the WHOLE or PART:—

100 Crebor.
100 Cwm Brwyno.
5 D'Ereeby Mountain.
25 Clementina.
50 Morfa Du.
20 Monydd Gorddu.
50 Hultafall.
25 Grogwinion.
5 Van.
10 Roman Gravels.
100 Chapel House Colliery
50 Bodidris.
5 West Chiverton.

WANTED TO PURCHASE—50 to 100 Glyn.
Address, H. WILKINS and Co., 3, Heybourne Villas, Tottenham.
Bankers: London and Provincial.

COPPER MINE TO BE LET, FOR A TERM OF YEARS, at LOW RENT and ROYALTY. Under 40 acres, more or less.
Particulars and samples, "G. W.," MINING JOURNAL Office, 26, Fleet-street, London, E.C.

TO BE SOLD, ONE COMPOUND EXHAUST FAN (Schiele's patent), calculated to exhaust 19,000 cubic feet of air per minute. Diameter of discharge pipe, 18 inches.
For particulars, apply at 4, Parker-street, Warrington.

ONE OF THE BEST INVESTMENTS EVER OFFERED TO THE PUBLIC
UNDER LIMITED LIABILITY.
TEN PER CENT. PREFERENCE SHARES OF THE BAILEY HILL COLLIERY COMPANY (LIMITED).
Shares, £5 each. Payments: £1 on application, £2 on allotment: balance, in four calls of 10s. per share, in periods of not less than two months.
There are 3380 Preferred Shares, of which only 1620 remain unallotted.
For prospectuses and particulars apply immediately to—
JOHN WOOLLRIGHT, Bold-street, Liverpool.

SPANISH MINES.—Advertiser is in a position to OBTAIN SOME VALUABLE GOVERNMENT GRANTS, which will PAY HANDSOME PROFITS. Parties commanding as little as £100 or £200 may apply.
Address, "Minas," Tresvias, Province Santander, Spain.

SPAIN AND PORTUGAL.
MR. J. T. JOHNSON, Assoc. Inst. C.E., F.G.S., &c., CIVIL and MINING ENGINEER, late of Chester and South Wales, having joined his Brother, Mr. T. M. JOHNSON, who for the last thirteen years has been engaged in Mining in Spain and Portugal, is prepared to INSPECT PROPERTIES and CARRY OUT GENERAL MINING AND ENGINEERING WORKS in those countries.
Address: CORREIO DO CORVO, PORTUGAL.

NEW QUEBRADA COMPANY (LIMITED).
Notice is hereby given, that the ORDINARY GENERAL MEETING of this company will be HELD at the City Terminus Hotel, Cannon street, on FRIDAY, the 27th day of June, 1879, at One o'clock P.M., for the purpose of receiving the directors' report, with balance-sheet and accounts, for the half-year ended 31st of December last; and for transacting the general business of the company.
The Transfer-books will be closed from Friday, the 20th June, to Friday, the 4th July, both days inclusive.
By order of the Board,
N. G. BURCH, Secretary.

CANADA GOLD COMPANY (LIMITED).—These SHARES CANNOT FAIL shortly to take a VERY IMPORTANT POSITION, and a GREAT ADVANCE in PRICE.
For full particulars, apply to JOHN BATTERS, 4, Austinfriars, E.C.

THE CANADA LANDS AND LOAN AGENCY,
32, WELLINGTON STREET EAST, TORONTO, CANADA,
Will afford gratuitously to correspondents all information, as to advantages of Settlement for Farmers with means to purchase Freehold Farms, or to Gentlemen and Private Families, giving Cost of Property, of Living, Educational Advantages, and Opportunities for Advancing Young Men in Professions or Commercial Pursuits. Also inducements to Skilled Mechanical Labour, Manufactories, and other Industries. When correspondence leads to settlement or business, a moderate compensation will be payable to this Agency.
MONEY INVESTED AT EIGHT PER CENT. PER ANNUM,
Payable half-yearly, on first mortgage of Good Farms, well situated and improving, worth double the amount at a forced sale. English references when required.
N.B.—Responsible parties in England and Scotland, desiring agencies there, paid by commission, will be supplied with pamphlets and maps, list, and cost of farms, town properties, mineral lands, and manufacturing and other industri s now offering, on applying with references as above.

MONEY LENT, at EIGHT, NINE, and TEN PER CENT., on FIRST MORTGAGE of FREEHOLDS for IMPROVEMENTS and STOCKING, said freeholds in the Province of MANITOBA.
Address, HERBERT C. JONES, Solicitor, 20, Masonic Hall, Toronto.

PARIS EXHIBITION, 1878.

GOLD AND SILVER MEDALS AWARDED for Steam-Engines & Boilers, also the Special Steam Pump, with Holman's Condenser & Compound Pumping Engine.

TANGYE BROTHERS AND HOLMAN,

HYDRAULIC AND GENERAL ENGINEERS

CORNWALL HOUSE, 35, QUEEN VICTORIA STREET, LONDON, E.C.,

AND BIRMINGHAM, (TANGYE BROTHERS), CORNWALL WORKS SOHO.

The "SPECIAL" DIRECT-ACTING STEAM PUMP,

WITH

Holman's Patent Self-acting Exhaust Steam Condensers.

UPWARDS OF 12,000 "SPECIAL" STEAM PUMPS ARE IN USE.

After eight years of successful application for all purposes to which steam-driven pumps can be applied, THE "SPECIAL" STEAM PUMP STILL MAINTAINS THE FIRST POSITION IN THE MARKET, notwithstanding that it alone—of all direct-acting pumps—has been subjected to the great variety of severe tests that must be encountered in such a period of time. Some valuable improvements have been suggested in the course of a long experience, and their adoption has rendered the apparatus at once the simplest and most certain in action. There is absolutely no extraneous gear, and the steam cylinder is *no longer than the pump*. The valves are of easy access, and are suited for pumping fluids and semi-fluids of almost any consistency.

Holman's Condenser

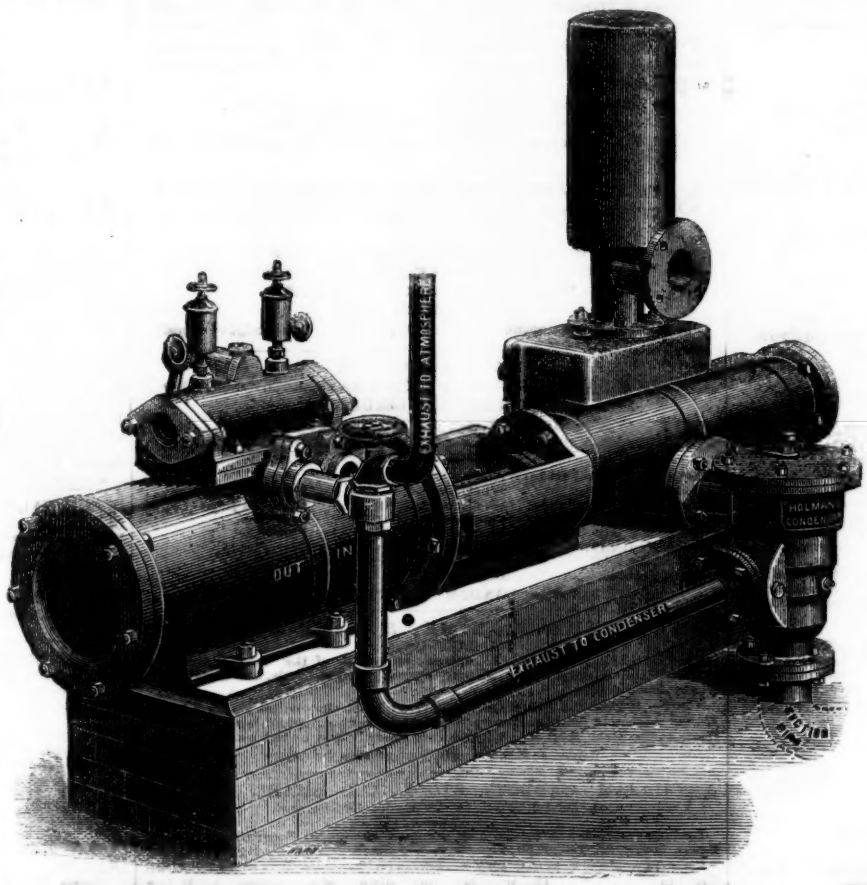
TURNS WASTE STEAM INTO GREAT POWER.

SAVES HALF ITS COST IN PIPES AND CONNECTIONS.

PREVENTS ALL ESCAPE OF STEAM IN MINES OR ELSEWHERE.

REQUIRES NO EXTRA SPACE.

SAVES TWENTY TO FIFTY PER CENT. OF FUEL.



WILLIAM ELLIOT, Esq., *of the Weardale Iron and Coal Company, writes under date Sept. 17th, 1875, as follows:*—"We have now THIRTY-FIVE of your SPECIAL STEAM PUMPS in operation at the various collieries under my charge—some of them employed pumping water out of our pits to the depth of 50 fms.—others employed in the pits, and a good many feeding Boilers. I have no hesitation in saying that we have found them the Cheapest and Best Pumps of the kind we have tried. I can with confidence recommend them to intending purchasers."

Messrs. BURT, BOULTON, and HAYWOOD, *Chemical Manufacturers, of London*, have FORTY of the "SPECIAL" STEAM PUMPS in use at their works.

HOLMAN'S CONDENSERS

Are made to suit any size and kind of Steam Pump. They form a part of the suction pipe of the Pump, and while they effectually condense the exhaust steam they produce an average vacuum of 10 lbs. per square inch on the steam piston, increasing the duty of the Engine and effecting a saving in fuel of from 20 to per cent.

In Mining operations these Condensers will be of great value.

All Boiler Feeders are recommended to be fitted with these Condensers, as not only is the exhaust steam utilised in heating the feed water, but is returned with it into the boiler.

GREAT REDUCTION IN PRICES.

The following sizes are suitable for low and medium lifts:—

Diameter of Steam Cylinder ...In.	3	4	4	4	5	5	5	6	6	6	6	7	7	7	7	7	8	8	8	8	8	9	9	9	9	9	10	10
Diameter of Water Cylinder ...In.	1½	2	3	4	3	4	5	3	4	5	6	3	4	5	6	7	4	5	6	7	8	5	6	7	8	9	5	6
Length of Stroke .....In.	9	9	9	9	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	12	18	12	12	12	18	24	12	12
Gallons per hour	680	815	1830	3250	1830	3250	5070	1830	3250	5070	7330	1830	3250	5070	7330	9750	3250	5070	7330	9750	13,000	5070	7330	9750	13,000	16,500	5070	7330
Price of Special Pump ...£	**16**	**18**	**20**	**25**	**22 10**	**27 10**	**32 10**	**25**	**30**	**35**	**40**	**30**	**35**	**40**	**45**	**50**	**40**	**45**	**50**	**55**	**65**	**50**	**55**	**60**	**70**	**85**	**55**	**60**
Extra, if fitted with Holman's Condenser and Blow-through Valve	£7	£7	£9	£11	£8 10	£11 10s	£12 10s	£9	£12	£15	£15	£10	£13	£15	£16	£22	£13	£16	£16	£22	£22	£16	£16	£23	£24	£35	£17	£17

CONTINUED.

Diameter of Steam Cylinder..In.	10	10	10	10	12	12	12	12	12	12	14	14	14	14	14	14	16	16	16	16	16	18	18	18	18			
Diameter of Water Cylinder..In.	7	8	9	10	6	7	8	9	10	12	7	8	9	10	12	14	8	9	10	12	14	9	10	12	14			
Length of Stroke .....In.	12	18	24	24	18	18	18	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24	24			
Gallons per hour	9750	13,000	16,519	20,000	7330	9750	13,000	16,519	20,000	30,000	9750	13,000	16,519	20,000	30,000	40,000	13,000	16,519	20,000	30,000	40,000	16,519	20,000	30,000	40,000			
Price of Special Pump...£	**65**	**75**	**90**	**100**	**75**	**80**	**85**	**110**	**120**	**140**	**110**	**120**	**130**	**140**	**160**	**180**	**140**	**150**	**160**	**180**	**200**	**180**	**190**	**210**	**230**			
Extra, if fitted with Holman's Condenser and Blow-through Valve	£23	£24	£35	£35	£20	£27	£27	£38	£38	£50	£28	£28	£40	£40	£55	£55	£28	£40	£40	£55	£55	£45	£45	£56	£60			

Intending purchasers of Steam Pumps would do well to observe the great length of stroke, short steam cylinder, and short piston of the "Special" Steam Pump, as compared with the short stroke, long steam cylinder, and long piston of the Pumps of other makers, as the efficiency and durability of the machine, and the space occupied by same, greatly depend upon this. The advantage of long strokes will be obvious when purchasers are reminded that each set of suction and delivery valves of a "Special" Steam Pump with 24 in. stroke, running at 120 ft. per minute, would open and close only 30 times per minute, as against 120 times per minute in a Pump with only 6 in. stroke performing same duty.

The "Special" Steam Pump can be worked by Compressed Air as well as by Steam.

HUNDREDS of these PUMPS are USED for HIGH LIFTS IN MINES, for which purpose they are made with 21, 24, 26, 28, 30, and 32-inch Steam Cylinders, and 36 48 and 72-inch Strokes.

The following Testimonial gives one Example of the Power Gained by the action of Holman's Patent Condensers:—

NORLEY COLLIERY, WIGAN.

Messrs. TANGYE BROTHERS AND HOLMAN.

GENTLEMEN,—I have great pleasure in recording my entire satisfaction with the working of the Holman's Patent Steam Pump Condenser which you have supplied to us. The complete condensation of the steam is, apart from its value in the strict economic sense, a most valuable feature in the drainage of underground workings. The perfect manner in which this important result is accomplished by your Condenser is extremely creditable to you, and merits the thanks and commendation of the Mining Engineer. When we start the "Special" Steam Pump the Condenser commences working automatically, and maintains a constant vacuum of 10¾ lbs. per square inch, even when we run the Pump upwards of 80 strokes (106 feet) per minute. It may perhaps be interesting to you to know that when we were running the Pump at 84 strokes (168 feet) per minute, the steam gauge indicating a steam pressure of 36 lbs. per square inch, 80 yards from the Pump and the Condenser vacuum gauge on the exhaust pipe indicating a steady vacuum of 21½ inches, I turned the exhaust steam from the Condenser into the atmosphere, when the speed at once fell to 44 strokes per minute. The working economy thus shown is really so great that the cost of the Condenser must be saved in a very short time. (Signed) J. THOMPSON.

NORTH OF ENGLAND HOUSE ... ... TANGYE BROTHERS, ST. NICHOLAS BUILDINGS, NEWCASTLE-ON-TYNE.
SOUTH WALES HOUSE... ... ... TANGYE BROTHERS AND STEEL, Tredegar Place, NEWPORT, Mon.; and Exchange Buildings, SWAN

Lectures on Practical Mining in Germany.

CLAUSTHAL MINING SCHOOL NOTES.—No. CXX.*

BY J. CLARK JEFFERSON, A.R.S.M., WH. SC.,

Mining Engineer, Wakefield.

(Formerly Student at the Royal Bergakademie, Clausthal).

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SECTION VI.

THE DIMENSIONS AND FORM OF ADITS.

As might easily be expected, there is a considerable variety in the shape and the dimensions; these are dependant on the requirements of the various objects to be fulfilled by the adit, and on the nature of the rock to be passed through. Exploratory adits are made as small as convenient for the men to work in with economy of labour and time in prosecuting the work. When the adits, which are primarily intended for exploring purposes, are driven in such a direction that they will probably have to serve more permanently other uses in the mine, it is not advisable to make them too small at first, as otherwise the additional cost of enlarging the adit might make the total cost much greater than if driven at first of the full size; the minimum dimensions being used only in drifts of a decidedly temporary character. When the adit is intended mainly for draining purposes the size is determined by the amount of the water to be carried off. Sometimes, as in the Earnest August adit, at Clausthal, the drainage adit is used as a canal for the conveyance of mineral, when the size must be made greater, to suit the boats used. In many other cases the adit has to serve as a horse road, when the height will have to be larger than usual. The following dimensions are given by Lottner. When the adit is being driven in rock, 7 ft. 6 in. in height and 4 ft. 2 in. in width will generally suffice for small adits; the dimensions reach 9 ft. to 11 ft. in height and 6 ft. in width for adits of a larger character. At the Saarbrücken collieries the principal adits used for the conveyance of the mineral are from 7 ft. to 7 ft. 6 in. in width where a double line of rails is laid down, and a height of 6 ft. 6 in. where hurrying is carried on, and 7 ft. 6 in. where horses are used. Where the conveyance is effected only by hurriers, and only a single line of rails laid down, 5 ft. in width and 6 ft. in height is considered sufficient. The channel for carrying off the water is usually 20 in. wide and 30 in. deep, though the dimensions sometimes reach 40 in. both ways. The channel is placed at one side, more rarely in the middle. The water cannel or drain in the drift, if permanently required, should have brick walls on both sides; where the channel is cut at one side only one brick wall (next the roadway) will be required. The water channel is often arched over one brick thick, to keep it free of dirt from off the roadway. In most cases it will be found necessary to dig out clearing sumps, so as to collect the sediment in definite places, and thus render the dredging of the water channel unnecessary, or at least less frequently necessary. The Froschmuhlen adit and the Zabenstadter adit, in the Mansfeld copper mines, are 6 ft. 6 in. in height by 4 ft. wide. The Key adit, which lies deeper, is 8 ft. 8 in. in height, and 5 ft. 3 in. width at the middle, and 4 ft. 4 in. in width at the floor; the dimensions at other parts of the level are increased successively to 9 ft. 6 in. and 10 ft. 6 in. in height, and 5 ft. 3 in. thick to lift bins. The Earnest August adit, at Clausthal, is made elliptical, or oval, in shape, 11 ft. 8 in. in total height, and 5 ft. 10 in. in maximum width; the radius of the arch of the roof being about 3 ft. 4 in., and that of the invert forming the floor about 3 ft. The Rheinhold Forster adit, at Eiserfeld, which is projected for a length of upwards of 8000 yards, has a total height 10 ft. 6 in., of which 6 ft. is taken up by the travelling road, 4 ft. by the water channel, which is covered by arching, the remaining 6 in. being taken up for the bearers for the rails. The mean width is 4 ft. 6 in.; a double line of rails, 2 ft. guage, is laid down. At every five chains a clearing sump, 5 ft. long by 2 ft. 8 in. wide and 3 ft. deep, is provided, in which the slime collects. The Rothschonberger adit, at Freiberg, is 10 ft. square. The Sutro Tunnel, a scheme for the draining of the Great Comstock Lode, in Nevada, is intended to be 10 ft. to 12 ft. square, and will be upwards of 2000 ft. deep.

When an adit is used as a water level the inclination of the level is of considerable importance. It may appear paradoxical to speak of a level having an inclination, but owing to the fact that there can be no flow of water in a perfectly horizontal road, all levels have some slight inclination, sufficient to cause the water to flow away. The amount of inclination varies considerably. A fall of 1 in 200 is very common in collieries. At the Saarbrucken collieries for ordinary adits, which emerge at the surface, a rise of 1 in 700 was usual; those which are too deep to emerge at the surface have a gradient of 1 in 1600. The Deep George adit, at Clausthal, has a gradient of 15 in. in 100 fms., or one in 533; the Earnest August adit dips 5·4 in. in 100 fms., or 1 in 1600. The inclination of the older adits is generally much greater than those which have been executed more lately. Formerly a gradient of 9 in. to 18 in. per 100 fms. (1 in 800 to 1 in 400) was most usual. The adits in the Mansfield district are driven with only a very slight inclination; the Froschmuhler adit dips 1 in. to 1½ in. per 100 fm.—1 in 7200 to 1 in 4800. The Zabenstadter adit has an inclination of 1 in 7500. When the adit is short the incline is usually greater—viz., 6 in. to 8 in. in 200 ft. In the case of very long adits a great inclination will give a greater loss of height (of ground above) which can be drained by the level; hence it is that the longer adits usually have a less inclination than shorter adits. On the other hand a greater inclination has the advantage that the water flows away more rapidly, and less sediment is deposited in the water channel.

In the driving of adits it is often of considerable importance that they should be completed within as short a time as possible. This object is generally attained by the following means:—

1.—The driving of the level from several points at once.
2.—By increasing the number of shifts per day.
3.—By increasing the number of workmen.
4.—By the use of machinery (as rock drills, &c.)
5.—In the case of adits of large section, by driving a narrow gallery in advance of the main working face.
6.—By employing only picked workmen.

With regard to the first of these means, it will be evident that if an adit can be driven from both ends the advance per week will be doubled. It will but seldom occur that the adit can be commenced from more than two points simultaneously. Suppose, however, that the adit can be commenced also at a point midway between the two extremities of the adit, then the driving of the adit can be commenced there in two opposite directions, and consequently the work will proceed at four working places, and four times as quick as if driven from one end only. Suppose, again, that the adit can be reached from two points between the extremities, then driving can be prosecuted six times as rapidly. In most cases of long adits the object is to drain the already existing workings, and consequently the adit can be commenced at two points—one in the workings of the mine, and another at the surface from the hill side, at a somewhat lower level. Where, however, as in the case of the Earnest August adit, in the Harz (which is upwards of 18 English miles long), the distance is great, the time required would be enormous if commenced from two points only. To overcome this difficulty day shafts are sunk at suitable distances to the level and in the direction of the adit, from the bottom of which the adit can be driven in opposite directions. In the case of the Earnest August adit nine day shafts were sunk, which gave 18 working faces, in addition to the place of commencement in the mines at Clausthal, and the mouth of the adit at Gittelde, in all 20 working faces. These were not all commenced or worked at the same time. The day shafts, in addition, have the advantage that they admit of a better ventilation of the adit. It is not usual to sink them directly in line with the direction of the adit, but somewhat to one side, the adit and the shaft being connected by a short cross-cut or drift. The Earnest August adit was driven a length of 12,320 yds. in 13 years. As will naturally be supposed, the greatest care is required in conducting the survey of such a work, the greatest difficulty being to preserve the proper inclination of the adit.

The following particulars respecting the agreements between the survey and the actual results will give some idea of the accuracy with which such surveys can be made by a careful surveyor. The survey was made with the theodolite chiefly; the principal portion of the survey was executed by Herr Bergrath Borchers, Lecturer on Surveying at the Clausthal Bergakademie. As the adit was driven from ten different points, there were nine points where the drivings from two adjacent points would meet each other. In the following table the first column gives the name of the place of meeting, the second the total length between the two adjacent starting places, the third the deviation of the courses at the place of meeting, the fourth the deviation in the level at the place of meeting, and the last the date at which the meeting was effected. The table below gives the deviation of the axis of the Queen Mary shaft, at Clausthal, at the place of meeting the shaft being driven simultaneously upwards and downwards from three points in the mine (as was mentioned in the last section), giving in all six workings in the mine, besides the sinking from the surface.

Name and place of meeting.	Total length of survey between starting places.	Deviation of course.	Deviation of level.	Date.
	Fms.*	In.	In.	
1.—Meeting in the Regenbogen Mine District	310	0·2	0·15	Dec. 4, 1856
2.—Meeting between Gittelde & the Fahlenbergen Day Shaft	880	0·3	0·40	Dec. 22, 1857
3.—Meeting between the Meding Shaft and No. 4 Day Shaft in Deep George Adit	2700	1·5	0·40	Jan. 12, 1859
4.—Meeting between the Hülfe Gottes Shaft and the mouth of adit	2760	1·0	0·23	Mar, 10, 1860
5.—Meeting between No. 4 Day Shaft in the Deep George Adit and Knesebeck Shaft.	1580	1·5	0·60	April 5, 1861
6.—Meeting between the Hülfe Gottes Shaft and the Knesebeck Shaft	1430	1·1	0·14	April 5, 1851
7.—Meeting between the Schreibfeder Shaft and the Saxon House Shaft	1890	1·5	0·37	June 6, 1863
8.—Meeting between the Meding Shaft and the Ernest August Shaft	3960	1·2	0·09	Oct. 28, 1863
9.—Meeting between the Ernest August Shaft and the Saxon House Shaft	1190	0·7	0 06	Jun. 22, 1864

	Deviation of the axis in the direction of the length.	of the breadth.†
Meeting at 146 fathoms below surface	1·5 in.	1·0 in.
Meeting at 202 fathoms below surface	2·6 in.	—
Meeting at 270 fathoms below surface	0·8 in.	1·4 in.

* 1 Hartz fathom = 2·09 English yards.
† The shaft is rectangular in section and vertical.

THE AMERICAN IRON AND STEEL TRADE.

The Proceedings of the Convention of Iron and Steel Manufacturers and Iron Ore Producers, held at Pittsburgh on May 6, contain much matter for consideration, as especial prominence was given to the question of the advantages of protection. The general direction of the opinions expressed is indicated by the quotation at the top of the title page—"The people of this country should insist upon the continuance of the protective policy, under which all American industries are reviving, and the hard times are passing away." The Hon. DANIEL J. MORRELL, president of the American Iron and Steel Association, was called to the chair, and in the course of a well-considered and exhaustive address remarked that organisation and association make the managers of an industry personally known to each other, jealousies are removed, confidence is promoted, a true community of interests is established and recognised, and the harsher features of competition are mitigated. The history of the American Iron and Steel Association from its establishment 30 years ago (Dec. 6, 1849) to the present time was traced, and the Chairman then considered the present business situation. He presumed that the meeting would agree with him that the long-continued downward tendency of prices in their trade had been arrested, and that there were unmistakeable indications, although as yet feeble, of a returning tide of business activity and prosperity. The immense strain to which manufacturers have been subjected is shown by the fact that a shrinkage in the selling prices of iron and steel rails which fairly represent the general trade, comparing the average prices of 1873 with those of 1878 has been 64 1-6th per cent.

It is very desirable, the president states, that uniform guarantees should be adopted, which without imposing unreasonable obligations will ensure a standard of good quality and workmanship to be respected by all manufacturers of similar products. Their attention had doubtless been attracted to a large purchase of English Bessemer rails by the New York Central and Hudson River Railroad Company at a price largely in excess of current rates here (Pittsburgh), and they had seen the reasons put forth as its justification. Having been appealed to for information he had not hesitated to denounce as false and slanderous the allegation that the utmost endurance of American steel rails is but five years, and that they are commonly inferior to rails made in England. He alludes to the subject here, as the whole trade has a common interest in maintaining the well deserved reputation earned by the manufacturers of Bessemer rails, and for the reason that this assault upon them may be regarded as part of a scheme to break down the protective policy of the country, which to-day is the sole guarantee of the continued existence of the great and growing industry which has placed within the reach of American consumers better and cheaper iron and steel than they ever before enjoyed. He considers that free traders are like those of old of whom it was said that "having eyes they see not, and having ears they ear not." They are dangerous because behind them is an unscrupulous foreign power which is always ready to use any and every means to break down the customs barriers of this and other countries, and which power is now, or is soon likely to be, in the most desperate straits if its efforts for their (the American protectionists') overthrow are not successful. Mr. MORRELL proposes, if only to secure delay, that the subject should be "entrusted to a commission not of owl-eyed college professors but of business men and statesmen, appointed by the President of the United States, with instructions and authority to ascertain the condition and wants of all our industries, and to examine the tariff legislation of this and other countries with reference to its influence upon national welfare, and demand also that Congress shall refrain from legislation upon the subject until the presentation of the report of this commission.

A particularly amusing paper by Mr. JOSEPH WHARTON was read, the author wisely absenting himself, probably because he doubted his ability to maintain a serious countenance whilst reading it. He commenced by referring to Talleyrand's remark that the United States resembled a giant without bones, and admitted that it had a certain aptness; it might be very well applied to the industries of the country as they would be without iron. Even hunting and fishing, and the ancient trade of murder and mankilling were, he considered, in a most deplorable position without iron. Cain, having no pistol or other modern convenience, doubtless had no better way to kill his brother than with a stick. Tribes desiring to fight had to content themselves with stone hatchets or arrow-heads, and with clubs. If, he continued, the dandy was right who said that existence without silver forks would be a burden to him, how distressing would be the life of a frontiersman without a revolver and bowie knife, which iron alone can afford him. Mr. Wharton gives translations of fragments from Arndt's "Lob des Eisens" and "Vaterlandslied," and one would be inclined to say he was rather a poet than a political economist had not an American defined a poet as "a sleepy literary scale-maker, a thing that sacrifices common-sense and grammatical accuracy for the sake of a systematic succession of long and short syllables." He objects to a "Siamese twin arrangement" of reciprocity between Great Britain and the United States, and, like the chairman, "prefers common-sense to college theories." Such language conclusively indicates the breeding of those using it, and it is not a little regretable that in a country like America the fashion of despising teachers should be so prevalent among the uneducated classes. It is a common American saying that a man is "so poor that he is obliged to teach school," and except in the leading universities, where the teaching is equal to any in the world, anyone seems to be considered good enough for a teacher. The natural consequence is that by far too many Americans receive a kind of training which improves neither their mind nor their manners, and which is certainly not calculated to assist the development of its immense natural resources, or secure its permanent happiness and welfare.

The paper by Mr. A. B. STONE, although based upon what the most thoughtful and impartial would regard as erroneous and untenable views, is worthy of respect for the excellent style in which it is written. He considers that free trade would condemn a new country to remain in the subordinate position in the industrial scale to which the superior wealth and long-continued efforts of older countries had consigned it. He also maintains that protection reduces prices to consumers, for he says—"It is plain that a protective tariff, instead of rooting out competition, actually creates it. The iron and steel producers of England are well aware that our protective tariff has produced competition from which they are to-day suffering." Mr. STONE further shows that American railroads and American farmers are benefited by protection, and he regards the satisfactory condition of American agricultural industry as traceable to their judicious patent laws in alliance with a judicious tariff system. Skilled labour has taken the place of poorly paid, and yet to the farmer costly, unskilled labour in the harvest fields. The demand for a large and increasing amount of manufactured iron and steel furnishes employment to increased numbers of artizans and labourers the year round, and while cheapening to the farmer the cost of producing and marketing his product, yet yields him a larger profit. It is to be regretted that the financial condition of the Association necessitates a reminder to those connected with the American Iron Trade that its useful labours cannot be carried on without funds; but as the trade fully recognises the importance of the work done, it may be hoped that the mere mention of this fact will suffice to secure the small additional support needed.

PUDDLED IRON, INGOT IRON, AND STEEL, FOR CONSTRUCTIVE PURPOSES.

At the North Staffordshire Institute of Mining and Mechanical Engineers meeting, last week (Mr. W. Y. CRAIG, the President for the year, in the chair), Mr. DANIEL ADAMSON read a paper on "Some of the Properties of Puddled Iron, Ingot Iron, and Steel for Constructive Purposes," and it was illustrated by specimens of each class of metal. He said the variable conditions of iron and steel arose from a small percentage of alloying elements. The purest metallic iron he had investigated was composed of 99·9 per cent. of pure metal. The leading characteristics of this pure iron were great ductility, malleability, and endurance when subject to strain, as compared with iron when alloyed. He examined the chemical and mechanical properties of several makes of iron, speaking of the Best Yorkshire as a high-class metal, enduring great punishment over a long range of working temperature, and being strong and dependable except over a narrow range of colour heat. It contained 98·9 per cent. of metallic iron, and manganese varying from 0·14 to 0·18, and very small in other alloying elements usually found in commercial iron. Of foreign matters there was, beside manganese, silicon, phosphorus, and a small quantity of cinder. An unequal distribution of earthy matter in wrought-iron was a source of weakness. He compared the carrying power of this iron with that of other makes, and explained that bar-iron was stronger than plate-iron in one direction, when the metal was of the same composition, but differing widely in the mechanical arrangement of its atoms by having more cinder in its composition, and from less work put upon it. Boiler, girder, and ship-plate iron was not so reliable as the same class of metal in the form of bars, owing primarily to the increase of cinder the plates contained, which was not equally distributed through the mass. The use of the steam-hammer in the shingling of blooms and welding of piled iron had, unfortunately, conferred a power upon the workman to wrap up the cinder during the manufacture of the iron, which had resulted certainly not in an improvement in the quality of common iron, but the reverse. Cut up a puddled bloom asunder cold, and they would find the interior mixed with earthy matter—iron and cinder, or, more properly speaking, cinder and iron, instead of a solid homogeneous mass, the strength of this class of iron varying much, sometimes breaking down suddenly and without warning. This unfortunately being the character of the material which most of the ships and girders were made of it was not surprising that the experienced engineer looked after a material which could not from the nature of its manufacture hold in itself any matter which was mechanically mixed; and such was mild steel or ingot iron. This was the purest of malleable metals, and followed the same fundamental laws as pure wrought-iron. It was very ductile, possessed great power of extensibility, and had much more strength than pure wrought-iron. Describing the chemical properties of the ingot iron or mild steel, he said the ductility with strength would appear to be supported by the manganese, being about equivalent to all the other alloying ingredients put together. The better class of mild ingot iron might be considered to be 50 per cent. stronger than ordinary merchant iron in plates, and 33 per cent. stronger in bars. The metal of that class, which had the greatest tensile strength and greatest power to resist compression, must be worked with some skill, as by violence, such as cold punching, much of the metal near the hole was thrown into active antagonism, and while it was strong to resist force, and endure heavy strains, it had conferred upon it equal power of self-destruction when abused, negligently treated, or manipulated in an inexperienced manner. No known malleable metal was more obedient and more dependable than this mild Bessemer and Martin Siemens steel, but it must be treated with experience and skill if its full carrying power and endurance must be realised in practical application. He then spoke of another class of metal, medium hard steel, as being specially adapted for the bridge builder and constructive engineer, and of its inapplicability to gun and cannon making. The large built up wrought-iron coil guns, however, that were at the command of the Government were found to be weak and treacherous, which arose from the unsuitability of the materials used in making the coils. Wrought-iron, to secure the highest strength, must be worked down into small sections, more especially to liberate its cinder. Mild steel, although far from being as pure as iron can be got, was more enduring and more dependable from being an alloy, and not a mechanical compound. It was as monstrous a waste of money and as silly an application to use wrought-iron for a coil gun as it ever was or ever would be to use a puddled iron rail instead of Bessemer metal. He advocated the use of the mildest Bessemer or Martin-Siemens steel for armour-plates for ships, owing to its endurance in resisting percussive force, and said the country had no right to feel disappointed that the steel armour-plates tested by her Majesty's and various other Governments had broken up. Little or no practical application had been made of the hardest and strong tool-cutting cast-steel, arising chiefly from its possessing a very limited ductility with no welding power. For some steady strains that metal might be used to advantage where the highest carrying power became a necessity. In reference to the conditions under which the mild metals and steel were recommended to be annealed and cooled in oil, such as had long been adopted to secure increased strength of the metal, he said the real value of that system depended on two leading features—the increased strength and how it affected the ductility. It was admitted that the metal would carry a higher tensile load, but at the same time it was more than questionable whether it did not slightly diminish its ductility.

* Being Notes on a Course of Lectures on Mining, delivered by Herr Bergrath Dr. VON GRODDECK, Director of the Royal Bergakademie, Clausthal, The Harz, North Germany.

This being so, increased strength might as well be got by a larger pressure of carbon and manganese, and probably without interfering as much with its ductility or power of elongation. The practice of mechanical bending tests, such as were stipulated by the Board of Trade, required serious modification, inasmuch as no metal should elongate more round the semi-circumference of a mechanically bent test piece than was due to the elongation of the class of metal itself. If a metal was under investigation that was expected to have a high carrying power with 15 per cent. elongation before breaking, the mechanically bent test piece should not, in the difference of the inner and outer curve, be greater than 10 per cent. in length, or it might, from its own leading constitutional characteristics fail. He next spoke of the effects of the rapid changes of temperature upon steel, which, he urged, should lead them to observe with care the cooling of large steel articles of irregular section, and watch that such did not come to grief by their own powers of self-destruction and then call it "mystery" when it was merely obedient to a natural law.

The PRESIDENT thought it was evident that the great staple trade of the country would in the future be steel instead of iron, and it became of the utmost importance to understand how far it would affect the North Staffordshire district. During the last 20 years great strides had been made in reference to the manufacture and use of steel, which was now what the cost of iron formerly was. No doubt the cost would be still further reduced when it had passed through the experimental stage. He commented on various passages in the address of Mr. Adamson, who, he said, had rendered great public service by endeavouring to show that the want of uniformity in the metal was not inherent in the material, but depended upon a knowledge how to work it. He had within the last fortnight obtained two new boilers, and owing to the uncertainty at present existing he did not feel at liberty to order them of steel. He hoped Mr. Adamson and other great authorities would not rest till this matter was cleared up. A higher class of education would be required for the manipulation of steel than for making iron.

Mr. C. J. HOMER said he had had nearly 20 steel boilers, which had been most severely tested, and his experience was in favour of steel boilers in preference to iron ones. He also expressed himself in favour of the application of mild steel to many other purposes.

Mr. F. SILVESTER spoke of the necessity of having a perfectly homogeneous metal, and said there was no doubt that steel would be the great trade of the future.

Mr. R. STEVENSON having addressed the meeting to the same effect, Mr. BALDWIN said he thought what Mr. Adamson termed mild steel might perhaps more accurately be described as pure iron, for it was nearly pure. He confirmed the remarks of Mr. Adamson in several important particulars from his own experience as a boiler inspector, and said he hoped in future all boilers would be made in such a way that they might know exactly what strain they would bear. If he had to choose a boiler he should certainly take one made of mild steel in preference to any known iron with which he was acquainted.

It was decided to postpone the discussion until the next meeting, the paper meanwhile to be printed.

In acknowledging a vote of thanks, Mr. ADAMSON observed that the dreadful mixing of cinder had injured the reputation of the North Staffordshire makers of iron. They had good materials, and the only thing they had to contend with was the alloying ingredients, which he urged them to blow out in the process of manufacture.

It was mentioned that Sir Henry Bessemer and Dr. Siemens would probably attend the next meeting and take part in the discussion, and that Mr. I. Lowthian Bell, M.P., would be invited to attend.

Mr. JAMES RIGG, of Chester, exhibited two models illustrating his patent coal-tipping machine for the rapid and economical loading of coal, which models are to be sent to the Sydney Exhibition. One of these models represented the tipping in conjunction with screening (on which subject the President delivered an address at the last meeting) as used at the pit bank for loading into railway trucks, and is specially applicable for the loading of soft coal without smashing it. The other model represented tipping as applied to end door railway trucks for loading into barges in tidal docks. The machines are balanced and self-acting in both directions, but controlled by powerful brake arrangement. Several of these are in use in Lancashire, and great interest was manifested in them by the members present.

Mr. ROBERT HADFIELD, Sheffield, exhibited some art castings in steel, manufactured by the Hadfield Steel Casting Company, whose various art productions have excited much interest amongst metallurgists, it having formerly been deemed impracticable to cast such articles in steel. These productions illustrate some of the latest triumphs in the art. One of these unique pictures in steel is a repousé shield after Benvenuto Cellini, and is supposed to represent the siege of Troy. The other pictures include representations of the elements and the seasons. These art castings were much admired.

CRANSTON'S ROCK-DRILL.—The excellent progress made with the Cranston rock-drills and air compressors at the Eberhardt and Aurora tunnel has several times been noticed in the *Mining Journal*, and it has been mentioned that they have at times driven over 300 linear feet per month. The drills are also at work at the James Watt dock at Greenock, where by their aid they have already removed over 300,000 cubic yards of trap rock. Two machines have been put to work at the Hutton Quarries, near to Mr. W. J. Smith's West Moor Limestone Quarries in Durham, where they have done the whole of the drilling regularly for the last five years at one-fifth less than the price which was formerly paid for hand-drilling. One machine averages from 70 to 80 ft., and sometimes more, per day, whereas it formerly required two men per day to drill a 10-ft. hole. The Cranston air-compressors and rock-drills have, as already noticed in the Journal, been recently put in operation at the West Pateley Bridge Mines, and are giving perfect satisfaction. Captain David Williams in his report, published in last week's Journal, states that the drills are already making very good progress, that one machine is working 15 hours per day, and is driving the heading twice as quickly as was previously done by hand labour. The opportunity may be availed of to mention that Mr. Cranston has just introduced an electric stone dresser, which has been successfully applied to the dressing of millstones, and is likely to prove equally useful wherever delicate and accurate dressing is necessary. The chisel employed is fastened to a spring arm, which protrudes from a case containing magnets and armatures. This spring arm, when the magnets are connected with the dynamo-electric machine, moves up and down with extreme rapidity, the chisel striking a blow at each descent. The inventor says it can strike from 1000 to 2000 blows per minute. Wires being used in place of steam pipes, enables the apparatus to be moved readily to any angle, or worked at any reasonable distance without much loss of power; while not the least meritorious portion of the whole invention is the horizontal frame or base to which the electric apparatus is fixed. This frame is portable, and by the use of screws can be so adjusted as to cause the chisel to strike any portion of a circle with either a swift or slow motion, the number and intensity of the blows being regulated according to the softness or hardness of the stone. By the use of this machine, Mr. Cranston claims that he can cover a millstone in a very short space of time with the necessary groove and furrows, having the straightness, regularity, and parallelism so much desired in good millstone dressing. The apparatus can be worked either automatically or by hand, and although with the present cost of electricity the principle is not adapted to rock-drills; it is considered that at a future time an electric rock-drill similarly arranged might become practicable.

HOLLOWAY'S OINTMENT AND PILLS—SORES, WOUNDS, AND ULCERS.—Every variety of sore, ulcer, eruption, boil, and carbuncle is safely stopped in its destructive course by the timely application of this healing ointment. It arrests unhealthy and substitutes healthy action, thus curing the inflamed, irritable, and spreading diseases affecting the skin. Holloway's ointment has gained an imperishable fame for its facility in healing old inflammatory sores about the shins and ankles, and for bad legs and old wounds it cannot be equalled; nor is it less efficacious in gathered breasts and abscesses. When the complaint has been of long continuance, Holloway's pills will expedite recovery if taken in those doses which act as alteratives on the stomach and tonics on the constitution.

Meetings of Public Companies.

LEADHILLS SILVER-LEAD MINING AND SMELTING COMPANY.

The fourth ordinary general meeting of members was held at the offices, Finsbury-circus, on Friday, June 6,

Mr. PETER WATSON in the chair.

Mr. F. R. WILSON (the secretary) read the notice calling the meeting.

The CHAIRMAN said—Gentlemen, I have been called upon to-day to occupy the chair rather unexpectedly, but I have undertaken to be the spokesman on behalf of the Chairman of the company, Mr. Tufnell Southgate, whose absence you will join with the directors in regretting to-day. He is suffering very acutely from the effects of the very severe weather which we have recently had, and we can only hope, although he is not present here to-day, that he will be able to attend as usual the regular board meetings at no distant date, and I am sure you will join me in wishing him a speedy restoration to health. (Hear, hear.) This meeting, gentlemen, as you are aware, is not what we term our annual meeting—that is to say, it is not a meeting at which we submit to you a statement of accounts. This is simply what may be termed a half-yearly meeting, and in holding our meeting to-day we are adopting the same course as last year—that is to say, to-day is June 6, and our meeting last year was also held on June 6, so in sending out the notice calling this meeting and the report we are keeping faith with you in calling you together as early as we possibly could. I make these remarks because of the fact that remarks had been made that we are a long time behind in calling the meeting: but from what I have said you will see we are not a day behind. (Hear, hear.) I only wish it was in the directors power to have something favourable to state—that is to say, that we should be in a position to announce to you a dividend. I am sorry to say that not only in lead mining but in all the various industries, especially those connected with metallic ore, such as copper, tin, blende, and even coal and iron, and all the other various industries of the country—all of them seem to be in the same depressed condition. But I need not preach to you to day a long ovation with respect to the unfortunate state in which we find this country. How long it is to last it is impossible to say. I took the chair here twelve months ago, and I am sure everyone of you at the meeting imagined that we had got to the worst, not only with respect to the price of lead but also of everything else; but the depression has gone on, and we find ourselves with lower prices for metals than we have had for a very considerable time. Although outside the sun is shining, yet, so far as our commercial horizon is concerned, I fear we must not look for any improvement just at present. There seems to be a general feeling that we are not to have an improvement this year, but if it comes next year it will be very welcome. On my way here I have heard that there is a little improvement generally, and really it is a satisfaction for us even to hear even that in these times of dulness and depression. But what we are meeting here for more particularly is not to dilate so much on the price of metals as to ask you what is to be done. We ask you to come in and give us the best of your advice with respect to what we shall do the next twelve months, and first of all with respect to the position we find ourselves in. We have not been raising anything like the quantity of lead which we formerly did. I will just call your attention to that point, because it is just as well to point these things out to the shareholders, that they may not be disappointed. From January to June, 1877, we rose 1592 tons; from July to December, 1877, we rose 1216 tons; from January to June, 1878, we rose 1324 tons; from July to December, 1878, we rose 1058 tons; so we have been decreasing in quantity very considerably during the past twelve months, and we have really been selling as little lead as we possibly could, for this reason—we thought that at one time we had a heavy stock, and when the rise came the other day we took advantage and sold some, and have been going on ever since, and we can increase our output on the report of Capt. Waters that the mine is looking a very great deal better. If you look twelve months ago to the report, more especially with respect to Brown's vein, there was only one or two places to value, but if you see the present report upon Brown's you will see the magnificent discoveries we have had in the last three or four months. This is not altogether unacceptable at the present time. We are looking up, and Leadhills is now looking better than for the last two, three, or four years. Now, we have been expending a great deal of money at surface and on opening out the mine, and we have not been selling so much lead, as I pointed out to you. Therefore, we have not been paying our way during the last six months. But, then, we have a great stock of stuff on hand. With respect to our assets, supposing all our liabilities are paid I think we have at the present time about 10,000*l.* worth of assets on hand, so that if we cannot give you any dividend, at any rate we are not like many mines, for we do not ask you to contribute a call. Both are out of the question. The great thing to look forward to is an improvement in the price of our lead, and we did think the other day we were going to have a rise. In America the market went up pounds per ton, and we thought that we were going to follow suit; but when you remember the severe winter we have had, or rather a series of winters one on the top of the other, from October last, and for the last two months you have almost had, as Lord Derby said, "Winter tinged with spring," I think you will see that our present state is fully accounted for. With the enormous building trade going on in this country we did hope the price of lead would rise, and I may say I have heard during the last few days that the price of lead has rather started again in America, so I hope when we meet here again at the end of another six months we shall have a very different state of affairs to report. The direction have visited the mine, and reductions have been made in every possible way consistent with efficiency and the development of the property. Notwithstanding the great depression which we have gone through—and which I referred to twelve months ago, and also six months ago—notwithstanding this great depression we have been expending a large sum of money in sinking Watson's shaft, which is now accomplished to the level which we were aiming at, and we are driving cross-cuts to intersect two of the three lodes which will be intersected in the course of another month or two, and altogether our prospects, so far as the mining is concerned, are equally as good as they were two or three years ago: in fact, I think a great deal better, if we could only have a rise in the price of lead. (Hear, hear.) There are many things which I should like to dilate upon, but I will not detain you at any great length. What we are waiting for is a revival of trade in this country. It is very hard for us to bear. We have given you 15,000*l.* in dividends, and we anticipated a continuance of those dividends, and they would have continued had we had a better price for lead. For instance, the highest price for lead ore something like four or five years ago was 16*l.* per ton, and now it is somewhere about one-half that figure, and it must be a very rich mine to continue to pay its way at the present time. (Hear, hear.) We can only live in hope that we shall have a better state of things. We have made considerable improvements in the flues, which have turned out remarkably well, and the directors at the last board meeting gave instructions to have it continued, by which we shall make greater sales. At surface we have made certain alterations, and very satisfactory alterations, with regard to dressing operations, all of which have cost money, so that if you have not got it in your pockets you have it in improvements on the property. I think myself that in the course of a few weeks we shall see a better price for lead again. That is really what this and other mines are waiting for, and I only hope and trust that our anticipations in that respect may be realised. (Hear, hear.) I have now to move that the directors' and agent's report, as circulated amongst the proprietors, and now presented to the meeting, be received and adopted. Of course I shall be happy to hear any discussion. We have to give an account of our stewardship to this meeting. I assure you, as I said six months ago, that our labours in carrying on this mine have been most arduous. We have done everything we possibly could. We have had Capt. Waters up here: we have been down to the mine and met him there, and Capt. Waters and I were up night after night, and he says morning after morning, going into facts and figures at the mine, and seeing what could be done in order to assist through this great crisis, which exists not only in lead mining but in every industry in this country; and I hope the discoveries which are now taking place will put the company in a very different position to that under which we are assembled to-day. (Hear, hear.)

Mr. YORK seconded the resolution for the adoption of the report and accounts.

Dr. A. G. BROOKES said it was impossible for the shareholders to look forward to any dividend so long as the price of lead continued so unfortunately low, but it would be a great source of satisfaction to the shareholders to be clear on the point as to whether there was a chance of the output realising the same in amount as it did when the mine was started, or whether the falling off (which had been somewhat considerable) was likely to increase?

A SHAREHOLDER said the question really amounted to this—that the shareholders would like to know whether the reserves of ore in the mine were as large as they were when the present shareholders took possession of the property? He presumed they were not taking so much ore out of the mine as they would do if there was a better price for lead; and, indeed, he questioned whether it would be wise to throw away so much rich lead whilst the price of that metal continued so low. (Hear, hear.) Perhaps the Chairman or Capt. Waters would state whether they were selling sufficient to meet the cost, or whether the development of the mine was suffering from want of funds to carry out the work properly?

Capt. WATERS said he had that morning been looking through his report, and had hoped that the shareholders would have gathered from it fully the present state and prospects of the mine. It was very difficult to answer the question whether, if the price of lead were 18*l.* or 16*l.* per ton, they could get a quantity equal to the sales when the company was first started? He might answer it in this way—they might be able to do more, or it might be that they would not be able to do so much, because it would depend, in his opinion, upon the way in which the Brown's vein continued to open out. His own opinion was that if the vein of ore described in the report continued in depth—and there was no reason to doubt that such would be the case—if they continued in depth he believed the mine would be better in future than at any time during the existence of the present company. (Hear, hear.) That was his opinion, but of course he did not wish to be bound by it. (Hear, hear.) There were mining engineers in the room who would agree with him in being cautious, but if the shareholders had looked through his monthly report and also the general reports which had been submitted to the general meetings, they must have discovered that the great falling off in the returns had been at Raik's vein, Reid's shaft. When the company started the bulk of the returns came from the back of the adit level in Raik's vein, south of Reid's shaft. There they had a lode about 60 fathoms long, worth up to 10 tons per fathom, and one month they had as much as 250 tons from that lode alone. They sunk winzes to the 10 fm. level, and lead followed on the deeper they went, and they had a fair lode along the 10. They would see by the report that some pitches at the back of the 10 were yielding from 2 to 3 tons per fathom. They exhausted the ore south and north, and they drove on the 10 north up to the junction of Jeffrie's vein. Since then they had sunk a winze from the 10 to the 20. At the last meeting, six months ago, they had at the bottom of the 10 lead worth 4, 5 to 6 tons per fathom. In sinking the winze from the 20 to the 30 they had a break, which he thought would possibly be the case. They had now sunk from the 20 to the 30, and they had a strong lode of spar, lime, and pyrites, and strong signs of lead, and his opinion was that probably they would find another run of ore going down there, and as miners they were bound to try those points. (Hear, hear.) It had been necessary to decrease the expenses in consequence of the falling off of Raik's vein, which reduced the returns, but when the Raik vein was yielding so richly, and Brown's vein was yielding but little, and when on the Raik vein the ground was soft, they used to stope the ground at 6s. or 7s. per fathom, if they had a rich bunch in ground like that it did not take long to get it away; but on Brown's lode they had to pay 6*l.* or 7*l.* per fathom for sinking, and in similar proportion for sinking winzes. He believed, speaking from memory, that the 70 was driven 20 or 25 fms. south of Jeffrie's shaft, and there had been a continuous run of ore throughout. They began to sink Newbegging's winze, and that was now through, and a section open for stoping, and the stopes were worth 2½ to 3½ tons. Referring to Folley's winze, he said that when that winze was open to the 20 they would have the richest section of ore ground they had yet had; the lode was 5 or 6 feet wide, a fine lead lode, something like Roman Gravels. That was on Brown's lode. The ore was as good in the bottom as in the roof. The Folley winze commenced to sink in ore worth 3½ to 4 tons per fathom, the winze almost immediately getting into a strong sparry orey lode, worth 5 to 6 tons per fathom, which had improved to 8 tons per fathom.

A SHAREHOLDER asked the distance between the end at the 70 and the run at Folley's winze?——Capt. WATERS said about 40 fms. They must understand there was not a speck of that ore to be seen at the back of the adit. They had driven 16 to 18 fms. south of the adit, and the men underground offered to work it at 4*l.* per ton, and the ore was now coming up worth about 4 tons per fathom. There was one other important point in connection with this lode. Jeffrie's shaft was sunk below the adit to follow up runs of ore down from the surface, and these had dipped north. The adit level was driven south, and there was a report that the old miners drove that level to reach the junction of Brown's lode with Dobie's, and that the men worked a rich mine from surface some way down to Gripp's. It was said that the richest portion was the junction of Gripp's lode with Dobie's.

The CHAIRMAN: And how far have you to drive to that?——Capt. WATERS said about 12 fms. If those runs of ore went down, as there was every reason to suppose they would, Brown's lode would be a rich mine. The lode was another such lode as that at Roman Gravels. (Hear, hear.) He certainly liked Leadhills better than when the company took possession, because he had more faith in a hard lode than a soft. Anyone acquainted with lead mining would know that the permanent lodes were those where the ground was hard.

Capt. WATERS, in answer to Mr. PETHERICK, said he believed they were only now on a level with the old mine bottom, which was about 4 ft. above Gripp's level.

Mr. PETHERICK: Then we are proving the mine below the old workings?——Capt. WATERS: Yes.

Mr. PETHERICK: Will it make a new mine if it goes down?——Capt. WATERS said that in Brown's level there would be four distinct runs. It was better looking even than Roman Gravels.

Dr. BROOKES said the explanation of Capt. Waters, in whom he had every confidence, was as satisfactory as it could possibly be, and he believed it would give satisfaction generally to the shareholders. (Hear, hear.)

The CHAIRMAN said he really did not know another lead mine which was looking so promising and so well for the future as this great mine. (Hear, hear.) He himself had always been struck by the remarkable resemblance which the lodes bore to those of Roman Gravels, and it might possibly be the Susannah vein, which proved the richest discovery of lead in this country. He had always had a desire to see the vein, which was situated on the other side of the valley, prosecuted in their mines, but with lead at half the price which it was some time ago they must take care of their financial position, and they could not develope all these things at once. There were 25 veins in the sett, and the company were now prosecuting 12 or 13, and he did not know a mine where there was so much tutwork being carried on. The mine was being thoroughly opened up, and he believed they would be more successful in the current year than in the past. Referring again to the depressed state of trade generally and the metal trade in particular, he expressed his opinion that a protective duty on mineral produce would be beneficial for all, and would be better for the working classes. (Hear, hear.) As a gentlemen from the Wolverhampton district told him, if the working classes and merchants there were canvassed, there would soon be protection.

Capt. WATERS, in answer to Mr. PETHERICK, said that one great reason why they were not now trying to get to the great runs of lead on the Susannah lode was that they would want powerful machinery for pumping, as there was a great deal of water.

Mr. PETHERICK said that was a good sign, as abundance of water denoted a continuance of lead.——Capt. WATERS: But when you are tackling a mine already in work you do not like to leave it and tackle a mine not in work. We should push on Jeffrey's shaft.

Mr. PETHERICK said he did not blame Capt. Waters, who was opening the mine in a scientific and workmanlike manner, but he did not see why they should not lay out a reasonable sum in trying to get to the bottom of the old mine.

Mr. WILSON said it would cost a large amount to work the Susannah.

After some further discussion of an unimportant character, the resolution for the adoption of the directors' and agent's report was put and carried unanimously.

Dr. BROOKES: I beg to propose a vote of thanks to the Chairman and directors of this company, who are deserving of great credit for the way in which they have pulled the company through the recent difficult times. As far as can be judged from the reports which have been given to us at this meeting, we seem to be going as satisfactorily as I believe it is possible for the mine to do, and we must give them credit for the management.——Mr. PETHERICK seconded the resolution, which was put and carried unanimously.

The CHAIRMAN, in acknowledging the compliment, said the mine now looked better than it ever did, and all they wanted was a better price for lead in order to enable the company to realise handsome dividends. He moved a cordial vote of thanks to Capt. Waters, to whom the greatest credit was due for the manner in which he had superintended the mines. It would be satisfactory for the shareholders to learn that the relations between the company and the workpeople were of the most harmonious character. (Hear, hear.)

Mr. PETHERICK asked whether anything had been done with regard to the lord's dues?——The CHAIRMAN said that was a question which would shortly come again before the board. In these times the lords could scarcely expect to receive the same amount of dues which they did when the metal trade was flourishing. There was a strong feeling in Cornwall, and other mineral counties, that some reduction should take place. The following paragraph, cut from a newspaper, would be interesting:—"The distress which has been felt for a year or more in Weardale, the chief lead mining district of Durham, has now reached very grave proportions. The largest part of the mines are leased from the Ecclesiastical Commissioners by Mr. W. B. Beaumont, M.P., and they have proved for generations most productive, the northern district yielding the largest amount of lead in England, and the mines of Mr. Beaumont being the largest contributors. The production of the Weardale and Allendale Mines was nearly 10,000 tons yearly. Last year, owing to the depressed state of the lead market and the low price of lead, the mines were worked partially only, and at length entirely closed, and the whole of the workmen thrown idle. When in full work these mines employ 1100 men, and the employment thus given forms the chief support of the extensive dale. Efforts are being made to urge the Ecclesiastical Commissioners to lower the dues exacted from the lessees, and it is expected that in a short time an enquiry on their behalf will be instituted in the dale, with the view of ascertaining whether, by a new arrangement, the mines cannot be re-opened." There was no doubt that shareholders generally were anxious that some reduction should be made in the dues.——A SHAREHOLDER: It must be done. (Hear, hear.)

Capt. WATERS briefly acknowledged the vote of thanks, and the meeting broke up.

WHEAL GRENVILLE MINING COMPANY.

A general meeting of shareholders was held at the offices of the company, Union-court, Old Broad-street, on Thursday,

Mr. R. W. GOOLD in the chair.

The following is the report of Capt. Hodge:—

June 10.—Goold's Shaft: The shaft is sunk 5 ft. below the 165; it is going down on the south side of the Great Flat lode. The old lode is in the shaft. The horse of granite between the two is about 1 ft. wide. The 165 is driven east about 6 fms.; the lode in the end produces stamping work, and letting out water freely. We have about 8 fms. more to drive to reach the run of tin gone down in the level above. The 165 is driven west 5 fms. 2 ft.; the lode in the end produces low price tinstone. The lode in the 150 east end is worth 10*l.* per fathom. We have passed through a run of tin ground here for 25 fms. in length, worth 8*l.*, 10*l.*, and 13*l.* per fathom. The stope in the back of said level is worth 10*l.* per fathom. At a point about 45 fms. west of Goold's, we are putting out a cross-cut to prove the north part of the lode; distance driven 3 fms. 3 ft. We expect to reach the north wall in another 3 fms. driving. The 140 fathom level east end is worth 9*l.* per fathom. The stope behind the said end is worth 9*l.* per fathom. The winze sinking below the 140 east level is down about 10 fathoms; the lode in which is worth about 10*l.* per fathom. When this winze is communicated we shall at once set two other stopes in the back of the 150 east level. The stope below the 140 east level is worth 8*l.* per fathom. We have fourteen tribute pitches at work by 37 men; average tribute 11s. 8d. in 1*l.*, and to be paid 36*l.* per ton for black tin. Since your last general meeting Goold's shaftmen have sunk the shaft 5 ft., cut barrow road around said shaft, cut ground for cistern at the 165, and fixed a 14-in. drawing-lift at that level; they have also cut ground for the plunger connection at the 150 fm. level. We have not yet finished cutting ground for the fend-off bob at the 140 fathom level, only having two men engaged here at times. The ground is spare, and it will take another month to complete. This done we shall at once fix the bob and the 16 inch plunger-pole at the 150. Most of our water is coming from that level. At the whim engine we have built the boiler-house, and the boiler erected in its place; we are now waiting on the founders for steam-pipes to connect the same. Goold's engine and the stamping engine are in good condition, and working well. Men employed, 114; girls and boys, 66—180. We shall sell to-morrow about 16 tons of tin. The mine east of Goold's is opening out very well, and when the communication is effected between the 140 and 150 we expect to materially increase our returns of tin.—T. HODGE. J. HOSKING.

The CHAIRMAN said there were two or three features brought out in the accounts which he would advert to, for he thought they would prove incontestably that the financial position of the company, as regarded both capital and revenue, was of an improved character. He thought the report of Capt. Hodge was of a more encouraging character than it had ever been his good fortune to comment upon before. As regarded the capital, they were now more than 2000*l.* to the good. When they last met the gross liabilities amounted to 3227*l.* 8s. 6d., and now they were 2428*l.* 12s. 2d., making a difference to the good of 798*l.* 16s. 4d. The assets then were 634*l.* 6s. 2d., and now they were 2352*l.* 16s. 1d., making a difference to the good of 1568*l.* 9s. 1d. For a good many meetings past they had had to talk of the large and heavy expenditure for new work, and about the extremely heavy costs and light returns, and the directors time after time had had to ask the shareholders to put their hands in their pockets and sanction call after call to a very large amount. He thought they might hope those days were ended for some time to come. Upon the present occasion, at all events, no call was necessary; on the other hand, they had plenty of funds in hand to go on with, and he hoped for the next five or six months the returns would be of such a character as to put all question of calls out of mind. Notwithstanding that some of the stopes which had somewhat fallen off had not materially improved, it had been Captain Hodge's good fortune to increase the amount of tin sold by some 8 tons in the past three months over the preceding quarter, which realised 457*l.* more than in the previous quarter. The costs had been materially lessened. In the previous quarter the cost for labour alone was 182*l.* 9s. 1d., and in the last three months 143*l.* 17s. 1d., being a saving of 38*l.* 12s. The merchants' bills in the previous quarter, exclusive of coal, amounted to 57*l.* 19s. 5d., and in the last three months to 23*l.* 4s. 9d., being a saving of 34*l.* 13s. 8d. The cost for coals in the previous quarter had been 72*l.* 6s. 11d., and in the last three months only 58*l.* 7s. 6d., showing a saving of 14*l.* 7s. 6d. The saving was a saving in consumption, and not in the price paid for coals, as the company had a running contract. At the last meeting the shareholders sanctioned an arrangement by which they were going to drive one of the ends east-

ward into what was believed would be good ground, by means of a boring machine, instead of hand-labour. That had been done, and for two months the boring-machine had been in operation, and had driven 20 fathoms, whereas they formerly drove by hand about 1 fm. a week. This was a hindrance that Captain Hodge was straining every nerve to save upon every item. Referring to the item of calls, he said the calls unpaid on May 31 amouted to 241*l.* 10*s.* 4*d.*, and since 10*s.* of that amount had been paid, so that there was a mere trifle outstanding for calls in arrear. The way in which the calls had been paid up proved that the company had a reliable and sound body of shareholders. Every item of expenditure was carefully scrutinised both by the directors and Captain Hodge, for these were times when, if they were to do any good in mining property at all, they must be strictly economical and saving in every item which came under their notice. Referring to the mining report, he said that at the last meeting they had not advanced eastward sufficiently to say that Captain Hodge was right with regard to the ground there. The 150 fm. level had been driven a considerable distance, but they had not reached the good run of tin ground which went down from the mine above. Captain Hodge had always said that the riches would be found eastwards. In the present report Captain Hodge stated that the 150 fm. level within one month began to improve, and from 8*l.* per ton at the last meeting had improved up to 12*l.* and 13*l.* per ton, and so it remained for 24 and 25 fms. It proved that the eastern ground was likely to turn out a very valuable property, far better and more valuable than anything they had hitherto, and it also proved they had a man in charge of the mine whose experience and judgment could be relied upon. Having referred to some of the other points alluded to in Capt. Hodge's report, the Chairman said there was every reason to believe that when they came to the junction of the two lodes in the shaft the lode would be very much richer, and there the granite between the two lodes was not now more than 1 ft. in thickness, there was every reason to believe that that junction would soon take place. He believed that before many months were over they would have a mine second to none in the district, and he hoped that at the next meeting their present anticipations would be carried out by results. (Cheers.) In conclusion, he moved the adoption of the directors' and agents' reports and accounts.

Mr. BELLINGHAM seconded the resolution, which was put and carried.

Capt. HODGE, in reply to a question, said the great flat lode was the main lode of the district.

Mr. CLIFT said he understood the mine going east was very much improved for tin?—Capt. HODGE said it was.

A SHAREHOLDER asked the amount of loss for the last three months' working?—The CHAIRMAN said not more than 100*l.* per month, which was a mere nothing to make up. If they had only 10 tons per month it would have made up the loss.

A SHAREHOLDER said it would be soon made up if they got an increased percentage.

In the course of a discussion which ensued the CHAIRMAN said the ground which they wanted to get to was about 80 fms. eastward of the shaft, and he believed that there they would have a good mine, and he believed that before the next meeting they would show a very different state of things.

A SHAREHOLDER asked whether the engines had been able to deal with the water?—Capt. HODGE said easily during the past quarter.

The CHAIRMAN said he much regretted that the committee had not been able to get any abatement or reduction of the dues, and the only concession they had been able to obtain was that if the dues were paid regularly in three monthly payments, beginning as from Jan. 1 last, the trustees would allow the amount of arrears of dues and the amount of land damage to be spread over a period of 18 months, that was to say to allow them to pay one sixth at each of the succeeding three-monthly meetings. He thought it would be as well if that were accepted. There was some dispute as to the amount of land damage between the surveyors for the shareholders and the surveyors for the lords, and the exact amount had not yet been ascertained, and of course they would not pay anything until the exact amount of damage had been ascertained.

Mr. LANE said that by paying this amount for the damaged land they would save 90*l.* or 80*l.* a year rent.

Mr. BELLINGHAM moved a resolution to the effect that the shareholders, whilst deeply regretting the failure of the efforts to induce the lords to forego any part of the dues in consideration of the heavy outlay upon the property, and seeing that any further representations to the lords are useless, hereby authorise the committee to pay one-sixth of the amount claimed as due when the amount actually due is clearly ascertained.

The resolution was seconded and carried.

A vote of thanks to the Chairman and committee closed the proceedings.

DEVON GREAT CONSOLS MINING COMPANY.

An extraordinary general meeting of members of this company was held yesterday at the offices, Gresham House, Old Broad-street (Mr. PETER WATSON in the chair), for the purpose of confirming the following special resolutions passed at the ordinary general meeting held on May 27:—

"That Article No. 55 be altered by inserting the words 'managing director' before the word 'secretary' in the second line of the said Article;" and "That Article No. 60 of the said Articles of Association be altered by expunging the words 'resident director at Tavistock,' and substituting in their place the words 'managing director.'"

Mr. W. H. ALLEN (the secretary *pro tem*) read the notice calling the meeting.

Mr. H. C. STEWART said he had very great pleasure in attending to move the confirmation of the above resolutions, and said the remarks he had to make were exceedingly short. He had taken a very active part—in the estimation of some, perhaps, too active a part—in advocating the abolition of the office of resident director, but he had done so in the belief that that which was worked upon a warm and genial and comfortable sinecure—which was very natural in days of prosperity—could not be maintained when the company was not in such a flourishing condition. He thought the time had come when if they had a little more youth imported into the undertaking—a little more young blood and youthful energy—it would be of advantage to the company, and much of the unpleasantness which they had witnessed would be done away with. Things changed, and everything must succumb to those changes which affected individuals as well as undertakings, and, as he had said just now, he believed that if some fresh blood and energy were imported into the company it would be better for all parties. (Hear, hear.) When these resolutions were passed (which he was sure they would be) he was certain that the Chairman would devote his tact and energy to the welfare of the company. The Chairman had had great experience in mines, extending now over 30 years, and his connection with some of the largest and most important mines in Great Britain had familiarised him with the labour question, the cost of production, and so forth. He was sure that if they all worked together the result must be beneficial. They were all working in one cause, and with one desire—that of receiving a dividend in future. (Hear, hear.) Everything he had said had simply pointed to that object, and if there had appeared just a tinge of feeling in his remarks it was simply arising from, and consequent upon, a difference of opinion as to how the affairs should be managed. He thought it was the duty of the directors to turn their attention to the lowest possible cost at which the undertaking could be managed down there with proper care, and he was sure the shareholders would agree with him that, whatever difference of opinion there had been between them hitherto, the cost must be reduced, or they must shut up the mine at once. (Cheers.) Since the last meeting he had received the Tavistock papers (sent probably from the same source as last time), which had wholly misrepresented what he had said at that meeting, and, if he had the means of communicating what he was now saying, he should like it sent to the miners, who had fancied that he was against them, and had criticised what he had said with the view of showing that he had acted in an unfriendly spirit. Now, he repeated, with feeling, that he was not actuated by an unfriendly feeling to labour of any case, but he told them respectfully that labour lost the rights to which it was fully entitled directly it assumed a dictatorial manner. (Hear, hear.) He liked the labour which he himself was engaged in to be well paid, and if the men would wait patiently until they got into better times he should be prepared to pay them better wages, but they must never forget that, like all other classes, they must bow to the times until that better time arrived. When the men knew him better they would know he was the last man to utter unnecessarily a single opinion when in conflict with them, and he hoped the time would come when the men would be convinced that there was no antagonism between the company and themselves. (Cheers.) He moved the confirmation of the resolutions.

Mr. ROBERTS seconded the resolution. He said the present shareholders were suffering from what the lawyers called a *damnus hereditatis*. The abnormal prosperity enjoyed by the former shareholders had had a demoralising effect, as abnormal prosperity always had upon both communities and individuals. The present shareholders were suffering from the condition of things which arose out of the prosperity, when the proceeds of the mine were so great; they were now entering upon a new *régime*; he had the greatest confidence in the present Chairman, who would now be managing director, and in his practical experience bringing them out of the difficulty they had been so long labouring under. (Cheers.)

The CHAIRMAN said:—Gentlemen, I beg to thank you for your kind attendance to-day. With respect to the very practical remarks which fell from Mr. Stewart, and also from Mr. Roberts, I am sure we all sincerely hope that a better state of things will exist in the future in connection with the various matters pertaining to the well being and management of the affairs of the mine. I will refer first of all to Mr. Stewart's remarks with regard to the observations he has called attention to in the local press. To the local press I have nothing to say, and I do not desire to say anything; they know from what quarter they obtain their information. But it is a satisfaction to me to have received a letter, which was received with several other letters with proxies, which I will ask the secretary to read.

The SECRETARY said the letter was from the late Mayor of Plymouth, and was as follows:—

Plymouth, June 6, 1879.—DEAR SIR: Notwithstanding all the clamour that has been made by the local papers, I have such confidence in our Chairman that I send my proxy with pleasure.—I am, dear Sir, yours faithfully, J. MILLS.

The CHAIRMAN continued—Gentlemen, it is very kind and complimentary so far as the Mayor is concerned; he is a very old shareholder, and his shares cost him a very heavy price, I believe. (Hear, hear.) With regard to the miners, I do not believe the miners themselves have any feeling on the subject against Mr. Stewart, any more than Mr. Stewart has against them—on the contrary; but for these agitations to go on in the local papers or otherwise is a great mistake. The proper way to manage affairs, as I have said—and in which, I think, you all perfectly agree—is for the employer and employed to settle differences between themselves, and that no paid demagogues or others are to come in between the body of respectable miners and the company by whom they are employed. (Cheers.) It is for the miners and the company to settle their own differences; and that has been my feeling during the number of years that I have, as Mr. Stewart says, been associated with some of the greatest mines. I know I am as well versed in the management of mines as anyone in Devon. (Hear, hear). And I will not play second fiddle to any man in the management of mines. I have been trained up to it from my boyhood. I wish justice to be done to all parties. Whilst I occupy this position I will see that right is carried out. As regards my taking the post of managing director, it has been the wish of my colleagues on the board and many of the largest of the shareholders that I should do so; and I can only say that I will give all the necessary time and do my utmost to bring this concern out of the present unfortunate position. As far as past losses are concerned, there was a heavy loss last year, but I hope we shall not approach that loss in the present year. I believe, although it has been contradicted, that we shall be able to buy our merchandise and other things at a considerable reduction, and I may mention that already, between this meeting and last, we have done something towards that very desirable end. (Hear, hear.) I will not say any more than this—that I go down to the mine immediately after this meeting to look into certain matters pertaining to the well-being and conduct of this company; and, if I am to day appointed by my colleagues as managing director, I will, as I have said, give as much attention to it as I possibly can, and certainly all necessary attention, so as not to interfere with my other arrangements. As you are aware, I am director, and have the management of various other undertakings, and, of course, it is only by associations of this kind that one is enabled as this—for it is gigantic. All I can say is that so long as I and my colleagues are associated with this undertaking we shall do the best for those whom we employ as well as for the shareholders. (Cheers.)

Mr. STEWART said he hoped the question of holidays would be settled between the Chairman and the men in a manner which was fair and right.

The CHAIRMAN said the wish of the directors, and he was sure of all the shareholders, was to do nothing but what was customary in the other large leading Cornish mines. The directors of Devon Great Consols did not want a single half hours' work out of the men more than was customary.

The resolution was put and carried.

Mr. STEWART proposed a cordial vote of thanks to the Chairman, who had worked hard for the company, and had shown an earnest desire to advance its welfare. (Hear, hear.)

Mr. TAYLOR seconded the resolution, which was put a carried, and the Chairman having acknowledged the compliment the meeting broke up.

CARN BREA.—A four-monthly meeting of adventurers in this mine was held at the mine on Thursday, Capt. Teague, the manager and purser, in the chair. The accounts showed an expenditure of 11,530*l.*, against receipts of 11,193*l.*, leaving a loss on the four months' working of 337*l.* The cost included 307*l.* for bankers' charges, and but for this the mine would have about paid costs. The balance due to the bankers is 19,233*l.*, but outstanding calls amount to 2100*l.*, and 5000*l.* of the call made some time since remains due, and this would reduce the balance against the mine to about 12,000*l.* No call was made, and the mine was reported to be looking better than at the last meeting.

TINCROFT.—Captain Teague presided at the usual meeting of adventurers held at the mine on Thursday. The accounts showed an expenditure of 6835*l.*, against receipts of 7402*l.*, leaving a profit of 567*l.* on the four months' working. It was explained that the reason of the profit being so much less than at the last meeting was that the stamps were idle for five weeks, materially interfering with the returns. No call was made. The amount due to the bankers is about 6100*l.*

WHEAL OWLES.—A meeting of adventurers was held at the mine to-day—Mr. Richard Boyns presiding. The accounts for four months showed an expenditure of 3334*l.*, against credit of 2600*l.*, leaving a loss of 734*l.* on four months' working. The balance against the mine is 19,011*l.*

THE SCOTCH MINING SHARE MARKET—WEEKLY REPORT AND LIST OF PRICES.

During the past week the only important feature has been the issue of the Board of Trade Returns for May, by which it appears the decrease in imports continues, but the decrease in exports has ended, and a small increase shown. After making every allowance for exceptional alterations in the returns, they afford encouragement that the long continuance of low prices which has been depressing all enterprise is ending. In this country there has been a great restriction of production, followed by lower wages and collapse of unsound firms, while, at the same time, America, India, and other foreign purchasers of British manufactures were gradually overcoming their difficulties, and getting into a position to make increased purchases. The natural result of these influences is to bring about an improvement in trade, and the most reliable sign of such an improvement is a rise in the values of British exports. Business in the share markets has been restricted by the fortnightly settlement now in progress, and transactions now entered into are for next account, June 27.

In shares of coal and iron companies, Clyde coal have improved 2*s.* 6*d.* per share, Lochore and Capledrae, also Omoa and Cleland each 2*s.*, and Marabella 6*d.*; while Ebbw Vale are 10*s.* lower. Benhars improved to 29*s.*, but have since been at 26*s.*, though now firmer. Chapel House shares are higher, at 20*s.* to 25*s.*, and the debentures are also enquired for. Andrew Knowles and Sons are at 12½ dis.; ditto (25*l.* paid), 18 dis.; ditto (fully paid), 30. Bilbao, 18. Bolckow Vaughan (A), 57 to 58; ditto (B), 31½ to 32½; and ditto (stock), 100 to 105. Cannock and Huntington, 13 dis.; Charles Cammell and Company, 24 dis.; Chillington, 35*s.* to 40*s.*; Ebbw Vale, 40*s.*; Marbella, 22*s.* 6*d.* to 27*s.* 6*d.*; Muntz's Metal, 25*s.* prem.; Newport Abercarn, 90*s.*; Omoa and Cleland, 8*s.* to 10*s.*; Pelsall, 10 dis.; Rhymney, 12; Sandwell Park, 12½; Scottish Australian, 35*s.* to 40*s.*; Sheepbridge, 49 dis.; Skerne, 60*s.*; West Cumberland, 15*s.* dis.; West Mostyn (pref.), 17*s.* 6*d.*

In shares of foreign copper companies Rio Tinto 7 per cents. have advanced 5*s.*, ditto shares, 2*s.* 6*d.*, and Huntington 6*d.*, while Tharsis (new) are 1*s.* 3*d.* easier. Tharsis (10*l.* paid) shares also commenced easier at 22½, but on the issue of the report, which is given below, being considered very satisfactory in the present state of trade, the price has advanced to 23, buyers. Cape shares are at 27 to 28; English and Australian, 25*s.*; New Quebrada, 41*s.* 3*d.*; Rio Tinto 5 per cent., 72¾; Yorke Peninsula, 3*s.* 9*d.*; and ditto (pref.), 7*s.* 6*d.* to 12*s.* 6*d.*

In shares of home mines Glasgow Caradon original shares are unaltered at 1*l.*, but the new shares are offered 3*s.* cheaper, at 10*s.* 6*d.* The next sale by this company will take place next Thursday, and is, computed, 180 tons of copper ore; last month's sale was 190 tons, while the sales in June for several years past have been from 230 to 260 tons. Shares in other mines are steady, and little doing in them. Aberdaunant are at 3*s.* 6*d.*; Blwch United, 20*s.*; Cwm Brwyno, 40*s.*; East Van, 35*s.*; Eyam, 75*s.*; Gorsedd and Merllyn, 55*s.*; Great Holway, 80*s.* to 90*s.*; Kilifreth, 2*s.* 6*d.* to 5*s.*; North Busy, 47*s.* 6*d.*; Pandora, 7*s.* 6*d.*; Prince Patrick, 20*s.* to 30*s.*; Red Rock, 40*s.*; Tincroft, 9¼; Van, 17 to 17½; West Basset, 85*s.*; Wheal Crebor, 20*s.* to 30*s.*; Wheal Jane, 25*s.*

In shares of gold and silver mines business neglected. Richmonds have varied between 7¾, 8, and 8¼ to 8½, nominal quotations; this week's run is 347,000. The Pestarena United gold returns for May are 603 ozs., and yield per ton 14 dwts. ¾ gr. A clean up, after 30 days' run, at Birdseye Creek, shows $7750 profit. Australasian Mines are at 5*s.* 3*d.* Argentine, 3*s.* 9*d.*; Cedar Creek, 3*s.* 9*d.*; Colorado, 31*s.* 3*d.*; Don Pedro, 18*s.*; Eberhardt, 65*s.*; Exchequer, 2*s.* 6*d.* to 5*s.*; Flagstaff, 2*s.* 6*d.* to 5*s.*; London and California, 12*s.* 6*d.* to 15*s.*; Pitangui, 7*s.* 6*d.* to 12*s.* 6*d.*; Port Phillip, 9*s.* 3*d.*; Rossa Grande, 1*s.* 6*d.* to 2*s.* 6*d.*; Sierra Buttes, 40*s.*; St. John del Rey, 265.

Shares of oil companies show no alteration of importance. Uphalls are now ex div. Young's Paraffin have sold from 14½ to 14¾; Price's Patent Candle, 8 to 9.

In shares of miscellaneous companies there is also no new feature. Brown, Davis, and Company are at 80*s.*; Droitwich Salt, 22*s.* 6*d.*; Native Guano, 52*s.* 6*d.*; Palmer's Shipbuilding, A, 18; ditto, B, 14¾ dis. In Wagon companies shares there is still a demand for Scottish at 9, and prices of others are—Birmingham, 12¾; Gloucester, 6½; Metropolitan, 32*s.* 6*d.* prem.; Midland, 8¾; and Railway Carriage, 7½. In chemical companies' shares Lawes' (pref.) are unaltered, also Langdale's, at 74*s.* to 76*s.*, and Newcastle at 12*s.* 6*d.* Lawes' offered at 8¼.

The following calculations show the yield per cent. on money invested at present prices in the shares named, based upon last year's average dividends being maintained:—In coal and iron companies, Andrew Knowles and Sons would yield 12½ per cent.; Bolckow, Vaughan, A, 4½; ditto, B, 4½; Brown, Bayley, and Dixon, 8½; C. Cammell and Co., 6½; ditto 6 per cent. debentures, 6; ditto 5 per cent. debentures, 5; Henry Briggs, A, 3½; ditto, B, 4½; J. Brown and Co., 9; ditto 5 per cent. preference, 5; Parkgate, 5½; Staveley, A, 5½; ditto, B, 5½; ditto, C or D, 4½; ditto 5 per cent. preference, 4½. In wagon companies, Birmingham would yield 7½; British, 9; Metropolitan, 7½; North Central, 8; Sheffield, 6½; Yorkshire, C, 7½. Great Laxey Mine would pay 7½; and St. John del Rey, 12. Earle's Shipbuilding would pay 10½; Milner's Safe, 6½; and Val de Travers Paving, 7½.

On Contango-day (Tuesday) the following were the rates of continuation current:—Contangos: ¾*d.* on Benhar Coal; 1*d.* on Glasgow Caradon; 1*d.* on Huntington Copper; 2*d.* on Marbella Iron; 3*d.* on Richmond; 2½*d.* on Oakbank Oil; and 3*d.* on Uphall Oil.—Backwardations: 3*d.* on Tharsis Sulphur and Copper; 1*s.* 9*d.*, 10½*d.*, 4*d.*, even, on Young's Paraffin; 1*s.* on Broxburn Oil; 3*d.* on Uphall Oil. On comparing the making-up prices fixed to-day for the following shares with those of the same shares at the last account the undermentioned variations are thus shown to have occurred during the past account:—Young's Paraffin have advanced 5*s.* per share; Uphall Oil, 3*s.* 9*d.*; Marbella, 3*s.* 6*d.*; Tharsis (new), 2*s.* 6*d.*; and Huntington, 1*s.* 6*d.*; while Richmond are reduced 2*s.* 6*d.* per share; Benhar, 1*s.* 6*d.*; and Oakbank Oil, 6*d.* The remainder are unaltered—Broxburn Oil, Glasgow Caradon Consols, Glasgow Port Washington, Monkland, Rio Tinto, and Tharsis.

UPLEES BRICKFIELDS COMPANY (Limited).—This company has been formed to purchase and work brickfields of the same name, situate near Faversham, in the county of Kent. The property consists of three fields, which contain a fine mill clay to the depth of 16 ft., and below that white sand. This fortunate supply of sand on the spot augments the value of the property considerably, as thereby the necessity of bringing sand for the manufacture in barges is dispensed with. The cost of making is, therefore, estimated not to exceed 17*s.* 6*d.* per thousand, and it is calculated a sufficient business will be done to leave 10,000*l.* or 12,000*l.* yearly as net profit. The property is also most advantageously situated for water carriage to London, where there is a ready market for stock bricks and malms. The fields are being laid out on an extensive scale with first class machinery. The lease is held on an unexpired term of 21 years, at a royalty of 1*s.* 6*d.* per 1000 bricks made. The capital is 20,000*l.* in 5*l.* shares, and 20,000*l.* in 25*l.* debentures, bearing 10 per cent. interest, payable quarterly, and redeemable at 28*l.* 15*s.* per debenture by drawings.

THARSIS SULPHUR AND COPPER COMPANY (Limited).—The following are the principal contents of the directors' report to be submitted to the ordinary general meeting of shareholders on the 18th inst.: In consequence of the alterations in the constitution of the company which followed the fusion with the French company, the report embraces the transactions of the united company between December 31, 1877, and March 1 last—namely 14 months—instead of 12 months as hitherto. The reports will be annual in future. The present report extends over a period of unexampled depression in the trade and commerce of the country. The debentures falling due on Dec. 1 last were renewed for five years, bearing 8 per cent. interest, and the sum of 150,000*l.* was issued on Feb. 1 last on the same terms. The debentures which fell due on the 1st of this month have been renewed on these terms also, and the directors had more applications for these debentures from investors than they could entertain. The net surplus from the downward traffic, after deducting as usual the interest on the first issue of debentures of 100,000*l.*, is 12,990*l.*; and the net surplus from the upward traffic is 2471*l.*, making together 15,461*l.*, as against 18,038*l.* in the previous year. Of this sum 5000*l.* has been carried to the reserve fund, making it 20,124*l.*, and the balance of 1,461*l.* carried to profit and loss account as usual. The net profits for the 14 months, together with 7859*l.* from previous year's account, amounts to 19,728*l.*, from which a dividend is recommended to be paid of 16½ per cent., free of income-tax, the whole being payable on July 10, and that the balance of 12,179*l.* be carried forward to the credit of the succeeding year.

The stocks in trade in Britain are increased by the sum of 41,208*l.*, and those in Spain reduced by 1488*l.* The Spanish property and plant accounts have been reduced by 10,328*l.* charged to profit and loss, in addition to what has been charged against costs of production in Spain. The miscellaneous assets have been written down 700*l.* The interest on the capital shares of the French company now being paid off amounted to 9033*l.*, and has been charged to profit and loss. The additions to the works and plant account for metal works in this country is 8542*l.*, of which the principles items are—743*l.* spent in culverts and embankments at Widness, 1185*l.* on additional plant at Oldbury, 846*l.* for new well at Cardiff, and 1883*l.* on the silver extraction plant at Garngad, where the extraction of silver from copper liquors has now begun. There is also 3003*l.*, being balance of the contractors' account for the erection of the Cardiff Works, only settled after several years of litigation for this sum, including all expenses, instead of 10,000*l.* as claimed. All the repairs have been charged to revenue, and 5 per cent., amounting to 13,840*l.*, written off for depreciation, showing a reduction on the metal works property account of 5338*l.*

The total quantity of pyrites invoiced to customers was 235,803 tons, against 226,869 tons in the previous year. Since Jan. 1 last an advance of 1*d.* per unit, or nearly 4*s.* per ton, has been obtained in the price of sulphur. The production of copper has continued satisfactory, but the company has again had to contend with very low prices, the market having continued to fall until a range of quotations has been reached so low as to be without parallel. The iron ore produced was 203,431 tons, and the quantity delivered to consumers 226,336 tons; these figures compare with 189,942 tons and 194,645 tons respectively in 1877. The total traffic on the railway during the 14 months was 256,627 tons, comprising 205,097 tons from the mines to the port downwards, and 21,530 tons from the port to the mines upwards; all these figures show decreases on 1877. The public traffic was 482 tons. The surpluses from the upward and downward traffic have been dealt with as previously referred to, and the small profit of 251*l.* obtained from the public traffic has as usual been credited to profit and loss. The mileage run, including ballast trains carrying 37,890 tons of slag, was 12,587 miles. The ballasting is now all but completed. The re-laying with steel rails amounted to 9314 metres, leaving only 140 metres to finish this work. The supply of rolling stock is ample for present requirements, and in excellent order, not a single wagon being in the repairing shop at Dec. 31 last. The railway also is in such good condition that the outlay on it will be moderate for several years to come. The expenditure embraced by the present report has been 11,346*l.*, all of which has been charged to revenue. Of pyrites there were shipped 216,613 tons of large ore and 17,213 tons of small ore—a total of 233,826 tons. Of precipitate there were shipped 6669 tons. Excepting the pyrites small ore, which has increased from 14,606 tons, these figures show a decrease compared with 1877. The pier, cranes, and mineral depôt at Corrales have all been maintained in good condition, and have given satisfaction.

In regard to the mines, we find, taking Tharsis first, that the removal of the overburden on the north lode has, owing to the large amount already removed, not been prosecuted at the same rate. During the 14 months the quantity of sterile removed was 60,981 cubic metres, as against 227,967 in 1877. The cost was 5883*l.*, which compares with 20,039*l.* The mineral was charged with 9013*l.*, leaving 3130*l.* in reduction of the debit at the north lode overburden account, making the total of this asset 55,384*l.* The mineral extracted from this deposit has been 185,654 tons, against 353,264 tons in 1877. The uncovering of the centre lode has also been curtailed for the same reasons. The overburden removed was 10,073 cubic metres, at a cost of 1226*l.*, as against 55,816 metres, costing 5468*l.* in 1877. The mineral was charged with 527*l.*, thus leaving the sum of 4049*l.* to reduce the debit at the centre lode overburden account, making the total amount of this asset 11,825*l.* The mineral raised from this deposit from January to October inclusive was 100,235 tons, against 69,705 in 1877. As was antipated in last report, the Sierra Bullones and Poca Pringue lodes are branches of the same mass, and the communication between them was established in October, after a gallery had been driven 250 metres. The Sierra Bullones branch has yielded ore of a superior quality, and from it 65,349 tons were raised during a portion of 1878, a large proportion of which was exported. In 1877 the amount raised from this lode was 12,907 tons. The Poca Pringue has only been developed to a small extent, the explorations yielding 2153 tons.

As to the other mine—Calanas—increased explorations have proved it to be of much greater extent than previously believed. Here the ore is all worked by shafts and galleries. The quantity of mineral raised was 65,641 tons, of which 63,751 tons were put to calcination. These figures compare with 46,044 tons and 45,415 tons respectively in 1877. The ore worked amounted to 63,139 tons, and the precipitate produced to 2229 tons, both of these quantities showing a large increase. All the plant and apparatus has been put in thorough repair, and the fixed property account has been reduced by 1794*l.*

The total mineral raising from Jan. 1, 1878, to Feb. 28 last, from all the lodes was 419,032 tons, as against 481,920 tons in 1877. This decrease is accounted for by the interruption to the cementation processes during August, September, and October, 1878, from excessive drought. Advantage was taken of the interruption to enlarge the storage of the principal reservoir to double its former capacity, and it now contains about 220,000,000 gallons of water. Last report alluded to the rainfall in 1877 having been 16·11 inches, as compared with 31·50 inches in 1876, and although the rainfall for 1878 measured 19·9 inches, 14 inches of this fall took place in the last three months of the year. The rains since have continued copious, so that the reservoirs are more amply stocked than ever before.

Preparations were resumed last year for more thoroughly investigating the various mineral deposits at Tharsis. Several experimental shafts were sunk and others further explored, and a series of bores put down on what are known as the South, Silillos, and Esperanza lodes. To provide for cheaper raising from the deeper levels of the north lode extensive machinery, in the shape of pithead frames, drawing and pumping engines, boilers, shoots, platforms, &c., have been provided, and the former smithies located there removed to a new building in a more central position. These additions involved an outlay of 18,337*l.* The substitution of steam power for mule labour allowed 89 of the company's mules to be sold for 1255*l.* The depreciations on the fixed property and plant account have been 8077*l.*, the net addition to this being 6604*l.*

The inventory of waste heaps at Tharsis has been written down by the usual amount of 4000*l.* per annum, equal to 4666*l.* for the 14 months, and now stands at only 4667*l.*, which will disappear from next year's inventory. The quantity of material in these heaps is represented by 1,413,378 tons, which remain a valuable asset to the company. Labour has been plentiful, and the demeanour of the workpeople satisfactory. The amount of money at the credit of depositors in the company's savings bank at Tharsis on Feb. 28 last was 10,283*l.*, against 8758*l.* in 877. In connection with a change of management in Spain, the directors have secured the services of Mr. Albert Grothe, civil engineer, who attained considerable distinction for carrying out the Tay Bridge undertaking while employed by Messrs. Hopkins, Gilkes, and Company (Limited).

In regard to the fusion with the French company, the directors have every reason to feel satisfied with the wisdom and prudence of that step. The arrangements in connection therewith are being carried out with as little delay as possible. The necessary legal formalities have been so far attended to, and the treaty and articles of fusion have been registered in Scotland and in France. The legal steps required in Spain are also in progress. The French company have handed over all their assets; their capital shares are being redeemed, and at Feb. 28 last, 9053 had been paid off, involving, with interest, a total of 83,470*l.* There remained 11,371 shares to be redeemed, equal in value to 118,20*l.*, the money for which was duly provided and remitted to Paris. The exchange of the French company's jouissance shares for Tharsis shares is being gradually accomplished. The total cost in cash and shares, of acquiring by this fusion of interests, the mines, property, and assets of the French company, represents in round numbers 762,224*l.*, but as the Tharsis shares were valued at 24*l.* per share there is a premium accruing on them of 331,324*l.*, which has been deducted in the balance sheet, bringing out a net sum of 430,900*l.*

With respect to the lawsuits in France, the opinion of the directors regarding them is unchanged—that they will continue to be unsuccessful, as their authors have hitherto been. They add that the shareholders may confidently leave them in their hands, that they will be carefully watched, and that the interests of the Tharsis Company will not be neglected. The statements made in several anonymous letters about those lawsuits are much in the line of those hitherto unsuccessfully pleaded in the French Courts. In regard to the main question—the allegations that the Apporteurs (the parties who originally brought the mines to the French company) have not been fully paid, it may be sufficient to give extracts from three judgments pronounced on that question. "Seeing (says the Tribunal) that the sum promised has been paid; that the issues have been subjected to the decisions of the general meetings; that the Apporteurs have received the *pro rata* coming to them on the issues made; that they have, therefore, nothing they can now claim under this head; that if, instead of having recourse to other issue the general meeting had preferred, on the report of the gérant, to authorise him to substitute a lease of the mines in lieu of the of the direct working thereof, this meeting, at which the Apporteurs were present, or could have been present, has in nothing exceeded its powers; that the documents produced establish the fact that it acted in a well understood common interest; that this decision, besides, does not destroy the equilibrium of the rights of Apporteurs, and of the other shareholders; that it is advantageous as well to the one as to the other; that Gosse and the heirs of Hazeiden, one of the founders of the company of the Copper Mines of Huelva, have not, therefore, sustained any prejudice, and have consequently, no ground for their demand, which must be rejected."

As some further particulars may transpire at the meeting next week, we will defer some remarks on the report till then. Last year we pointed out that this company's reports were always very clear, and now it will be observed the auditors assure the shareholders that, so far as complete and systematic book-keeping and account keeping are indicative of good management and thorough control of a business, they exist in this company to a degree which the auditors have not seen excelled. The dividend of 16½ per cent. being for 14 months, represents about 14½ per cent. for the year. Now, in the previous year 17½ per cent. was paid, but the shares are selling at the same price now as then, indicating the credit of the company to stand very high, as well as confidence in its future prosperity. At any rate, 14 or 15 per cent. is not a bad dividend for such an extensive concern to earn in a time of unexampled commercial depression. No one can read the yearly reports of the concern without being convinced of the inexhaustible productiveness of the mines, and owing to the sound system of finance on which the concern is worked, as well as the great expenditure from revenue in former years for purposes of development, of which they are now beginning to feel the benefit, it is evident that it will always pay a good dividend so long as copper is a marketable commodity. Those who may wish to examine the company's progress in late years can find the annual reports in the Journals of April 24, 1875; April 22, 1876; April 21, 1877; and April 13, 1878; all of which are so arranged as to facilitate comparison with the present report.

J. GRANT MACLEAN, Stock and Share Broker.

Post Office Buildings, Stirling, June 13.

Registration of New Companies.

The following joint-stock companies have been duly registered:—

THE CROOK BURN MINING COMPANY (Limited).—Capital 6400*l.*, in shares of 1*l.* The searching for, winning, and working of lead ore, coal, calamine, sulphate and carbonate of barytes, blende, and other minerals in ground, situate at Crook Burn, at the junction of the counties of Durham and Cumberland. The making, smelting, and preparing, and selling of fire and other bricks, tiles, lime, lead, blende, iron, iron ore, and any other articles made or composed of any mineral or other substance raised or belonging to the company, and to carry out an agreement whereby C. W. Harrison, on behalf of the company, to purchase from J. H. Robinson his interest in the above-mentioned property. The purchasing or otherwise acquiring any other lands, mines, mineral properties, &c. The subscribers are—T. Gray, Newcastle-on-Tyne, contractor, 200; T. B. Winter, Newcastle, optician, 200; T. Anderson, Newcastle, agent, 100; W. Scott, Newcastle, 200; A. L. Newton, Newcastle, agent, 200; T. B. Barker, South Shields, gentleman, 200; T. Sheldon, Jarrow, chemical manufacturer, 200. Messrs. Gray, Winter, Scott, and Robinson to be the first directors. Qualification stock to the nominal value of 100*l.*

THE AMERICAN FREEHOLD LAND MORTGAGE COMPANY OF LONDON (Limited).—Capital 1,000,000*l.*, in shares of 20*l.* The advancement of money on loan on lands and hereditaments of every description in the United States. The subscribers (who take one share each) are—C. A. La Trobe, South Kensington; G. Simonds, 152, Buckingham Palace-road; E. A. D. Widdington, Telegraph-street; W. C. Prescott, 116, Buckingham Palace-road; W. H. Cochrane, 27, Norfolk-road; E. S. Parker, 25, Gibson-square; E. Schubert, 32, St. Swithin's-lane.

THE CROMER LAND AND BUILDING COMPANY (Limited).—Capital 50,000*l.*, in shares of 10*l.* The acquisition of land in Norfolk and erecting thereon houses and buildings of any description to let, lease, sell, &c. The subscribers are—C. H. Parkes, Weybridge, 100; J. F. H. Read, Walthamstow, 30; I. Swarbrick, Tottenham, 50; L. Simpson, 50, Gower-street, 25; H. Rogers, Weybridge, 50; W. T. Makins, 1, Lowther Gardens, 50; H. W. Eyres, 41, Upper Grosvenor-street, 20; A. H. Parkes, Weybridge, 20; C. Tildams, 57, Coleman-street, 20; C. A. Curwood, Twickenham, 10.

THE PROVINCE OF VICENZA STEAM TRAMWAY COMPANY (Limited).—Capital 60,000*l.*, in shares of 10*l.* To acquire a concession for a tramway from Vicenza to Valdagno, Italy, and to construct, lay down, and work same. The subscribers (who take one share each) are—H. Kenyon, Maryport; L. C. Duncan, 3, Newman's-court; W. Coppen, Camberwell; J. Firth, Averley; W. H. Chase, 18, Queen Victoria-street; A. Weigel, 59, Mark-lane; R. F. Mackenzie, Milan.

JOHN LEE AND SONS (Limited).—Capital 30,000*l.*, in shares of 10*l.* To acquire by purchase or otherwise several woollen mills known as Royds Mills, Ossett, Yorkshire, with the buildings, plant, &c., and the carrying on of the business of woollen manufacturers and warehousemen. The subscribers are—J. Batters, Stanstead, 1; F. T. Bennett, West Dulwich, 1; J. E. Lee, Earlstreaton, 10; E. Lee, Earlstreaton, 1; A. T. Gawthorpe, Wakefield, 1; T. E. Eastwood, Earlstreaton, 2; T. Woodward, Earlstreaton, 1.

THE LIVERPOOL SAFE DEPOSIT COMPANY (Limited).—Capital 20,000*l.*, in shares of 10*l.* Buying and selling lands, tenements, premises, and property in England; the erection of steel fire-proof and other safes on the premises of the company, the letting for hire of same, and any other property of the company. The subscribers (who take one share each) are—J. Mill, Liverpool; G. Chamberlain, Liverpool; T. Troine, Liverpool; T. Bold, Liverpool; H. Lovatt, Liverpool; W. C Clark, Liverpool; W. Tod, Liverpool.

THE SOUTH HANTS STEAM LAUNDRY COMPANY (Limited).—Capital 5000*l.*, in shares of 5*l.* To purchase or otherwise acquire land and premises in Southampton for the purpose of carrying on a laundry business. The subscribers (who take one share each) are—C. Crew, Millbrook; J. Miller, Southampton; J. D. Barford, Southampton; J. H. Cooksey, Southampton; I. J. G. Jellicoe, Southampton; J. D. Aldridge, Southampton; C. Beacon, Isle of Wight.

"ROYAL EXCHANGE" CO-OPERATIVE RESTAURANT AND WINE SUPPLY ASSOCIATION (Limited).—Capital 50,000*l.*, in 5000 shares of 5*l.* and 25,000 shares of 1*l.* For the sale of wines, spirits, beer, cigars, and other articles sold by cafe and restaurant proprietors. The subscribers (who take one share each) are—W. H. Scott, Holloway; W. Hannam, 67, St. James's-street; T. W. Vidion, Bow; G. Collier, Wandsworth; A. D. Johnstone, 4, Great Queen-street; F. A. de Costa, Clapham; F. Hill, 363, Kennington-road.

YATES, HAYWOOD, AND CO. AND THE ROTHERHAM FOUNDRY COMPANY (Limited).—Capital 100,000*l.*, in shares of 100*l.*, out of which 300 are 5 per cent. preference shares. The adoption of a contract made between George Haywood and others for the carrying on the business heretofore belonging to Yates, Haywood, and Co., as iron and brass founders, stove, grate, and marble manufacturers, and manufacturers of any articles made of iron. The subscribers are—R. Haywood, Rotherham, 10; G. H. Haywood, 8, Clarendon-road, 50; W. H. Haywood, Rotherham, 10; E. Drabble, Rotherham, 10; Mary Drabble, Rotherham, 10; Ann Oxley, Rotherham, 10; T. Magg, Rotherham, bank manager, 10.

WATERLOO AND DISTRICT LAND AND PROPERTY COMPANY (Limited).—Capital 50,000*l.*, in shares of 5*l.* To purchase or otherwise acquire, erect, and lease, sell, &c., any lands, buildings, houses, &c. The subscribers are—T. McGeorge, Waterloo, 10; F. A. Rockliffe, Southport, 20; C. Colton, Waterloo, 10; J. J. Cumming, Waterloo, 20; J. Tankerville, Liverpool, 10; J. F. Doyle, Liverpool, 10; J. C. Eccles, Everton, 8.

WILLIAN RAMSEY (Limited).—Capital 50,000*l.* in shares of 10*l.* To purchase the warehouses in Farringdon-street and Plumtree-court, with fixtures plant, &c., and to carry on the business of a glass and china merchant, dealer in builders' materials, &c. The subscribers (who take one share each) are—W. Ramsey, 83, Farringdon-street; C. L. Eberhard, Cheapside; M. Dunn, 10, Catherine-street; T. L. Green, 73, Nelson-square; H. A. Dubois, 115, Chancery-lane; G. Odle, Nunhead; H. B. Marshall, 125, Fleet-street; H. Vaughan, Shacklewell-lane.

"THE TEACHER" NEWSPAPER COMPANY (Limited).—Capital 5000*l.*, in shares of 10s. The printing and publishing "The Teacher" newspaper, and acquiring, by purchase or otherwise, copyrights of books, newspapers, magazines, &c. The subscribers are—A. F. Smith, Borough-road College, 30; J. E. Taylor, Borough-road College, 10; J. H Hudson, Borough-road College, 20; J. T. Treleaven, Peckham Rye, 20; E. Ballantine, Peckham, 30; T. Gantry, Camberwell, 30; J. T. Wright, Peckham, 30.

THE GOLYNOS CHEMICAL COMPANY (Limited).—Capital 4000*l.*, in shares of 50*l.* The acquiring of a patent for improvements in the treatment of iron by waste sulphuric acid, making and selling of acid copperas, red oxide, &c. The subscribers are—C. Herbert, Garndiffaith, 4; E Jones, Garndiffaith, 4; D. Williams, Pontnewynydd, 4; P. A. Williams, Abertillery, 4; E. P. Martin, Blaenavon, 4; J. Richards, Pontypool, 4; R. Greenway, Pontypool, 2.

ELECTRIC LIGHT.—For the purpoce of obtaining electric light, Mr. F. GYE, of Wandsworth-road, proposes to employ for one of the electrodes of the apparatus a disc of carbon mounted on an axis, which can be revolved slowly at the same time that it is caused to moved vertically, or it might be horizontally in a straight line. The other electrode may be an ordinary carbon stick, the point of which is held stationary at a slight distance from the face of the disc. As the disc electrode revolves and shifts its position, a fresh portion of its surface will continuously be brought opposite to the carbon point; thus, as any part of the face of the carbon disc is consumed by the passing current, another portion of the disc comes opposite to the point and is in turn consumed. By this means the face of the carbon disc will be eaten away in a long spiral line, and the distance between the carbon point and the portion of the disc opposite to it will remain uniform during the whole time, so that a steady light is maintained. The carbon disc is mounted upon the axis, which is thus to carry it. On the end of the axis is a circular plate, against the face of which the back of the carbon disc is placed. The carbon disc is clamped to the plate by a coned ring, which overlaps and embraces a portion of the circumference of the disc which is correspondingly coned. The face of the disc is made to project somewhat in front of the ring, so that when the whole of the face of the disc has once been used the disc may be put into a lathe, and have a thin layer removed from its face, so as to produce a new flat surface upon the face to be again acted upon.

Mining Correspondence.

BRITISH MINES.

ABERLLYN.—J. Roberts, June 11: I have let the driving of No. 2 end, on the heading of the blende lode, to four men, at 7*l.* per fathom for the month; the lode is looking very promising for lead, although the blende is not quite so much as it has been sometimes, worth now about 2 tons per fathom for the width of the end. As we have a good length of this lode now cut through from heading to hanging (4 ft wide) I have put the men who were engaged here on the shale part in the deep level, and also at this level, which gives us a chance to get out the blende from the shale lode at an earlier date to the dressing floors. I have let the driving of No. 2 end, on the shale lode, to four men, at 3*l.* per fathom for 3 fathoms; the lode is looking very well, and will produce 2 tons of blende to the fathom. I hope that we shall be able to commence sending down the blende over the incline next week. We shall soon be ready then for the sampling.

ASSHETON.—Joseph Garland, June 13: The 10, north of Lindow's shaft cross-cut, is cleared and secured for about 16 fms.; the level is mostly quite full of stuff so far as yet reached, and appears to have been driven partly in the lode and partly in the hanging-wall. There is lead ore to be seen in places. The shallow stope over the bottom of the 20, south of Mawr shaft, has been completed, and the water covered at Gundry's shaft, and the bottom lift of pumps brought to surface. The men are now employed stoping away a few feet from the back of Gundry's cross cut preparatory to clearing and driving the level south of shaft. There are now eight pitches working, and yielding the usual quantity of ore. We sampled on the 4th inst., for sale to-day, about 27 tons of lead ore. On the 6th inst. we replaced the old fend-off bob in Mawr shaft by a new iron one, and it is working well.

BLAEN CAELEN UNITED.—Jonathan Pell, June 12: The 30 driving east is making fair progress. The lode continues very hard; good strings of lead in the bluestone alongside the lode, which is worth fully 30*l.* per fathom. I have been opening up the ground west of engine-shaft to ascertain its value for stoping, and find we have many hundred fathoms of ground untouched and laid open by the deep adit and the 10 and 20 fm. levels, and so soon as the 30 is communicated with the winze east shall open on the lode westward. Capital weather for dressing, and everything going on well.

BLUE HILLS.—S. Bennetts, P. Vian, June 7: The lode in the 30 east end is gradually improving; it is now 2½ ft. wide, containing good stones of copper mixed with blende and mundic, and worth about 8*l.* per fathom for tin. The stopes in the back of this level as they approach the large gossan are not so productive as they have been. In the shaft sinking below this level no lode has been taken up during the past week.

BODIDRIS.—H. Hotchkiss, June 6: I have nothing new to inform you of in the drivings, and progress has been rather slow in the new shaft this week, owing to the ground being much tighter and a good feed of water to contend with, but we are drawing very near to the ore-bearing part of the lode, which I am pleased to say is to-day richer for ore in the east end of the rise than I have seen it before, and the lode or bearing part is 3 ft. wide for full length of rise, and lead is mixed throughout, but the east end is the richest. It is very probable we shall have ore here up to the surface.

— June 9: The ore in the east end of the rise on Maes-y-Pwll lode continues to look well. We have more water issuing from the top of this rise to-day, which I think is caused by the great quanty of rain which we had on Saturday and to-day. We still meet with a little ore in the 45 end east, otherwise there is no farther change.

— June 11: Paes-y-Pwll Lode: The 60 east is being urged on as fast as the nature of the ground will admit, which is rather spare for driving at present, and the lode contains, blende, ore and other favourable indications of lead ore. The rise in the back of this level maintains its promising character for lead ore, with a slight improvement in the east end since my report of last week. The new shaft sinking from the surface is now down upon the ore bearing part of the lode, which presents a very kindly appearance, having a nice mixture of solid lumps of lead ore, from which we have extracted a few solid lumps weighing from 10 to 15 lbs.: this clearly indicates the existence of this run of ore upwards, and our prospects for the future in this part of your property are most encouraging. The 45 end east on the middle lode still presents the same promising feature of nearing the Craigiog lode; the lode we have in the present drivings is well defined, and is in good mineral ground, with some fine specimens of lead ore.

CAMBRIAN.—Thomas Glanville, June 7: We have this morning finished sen ling another lot of copper ore to Swansea. Computed parcel No. 1, or best, 33 tons 1 cwt.; ditto, No. 2, or best, 23 tons 13 cwts.; gossan, No. 3, or best, 1 ton 3 cwts.; total, 57 tons 17 cwts.

ESGAIR FRAITH.—In the eastern shaft the part of the lode sinking on is worth 10*l.* per fathom for copper ore. In the 70 yard level east the lode is worth 10*l.* per yard for copper ore. In the stopes in the back of the 70 yard level we are now taking down the lead part of the lode, which is yielding 10 cwts. of lead ore per yard. In the winze sinking below the 46, west of shaft, the lode is worth for lead 10 cwts. per yard.

ESGAIR-HIR.—In the western part of the mine, and about ¼ mile to the west of shaft Goch, in sinking a shode pit 9 ft. deep we have cut a very promising lode: as far as seen it is composed of lime and spotted with lead. We are now opening a trench to see it at another point further down the mountain. In the cross-cut driving south we have a large stream of water issuing from the end, which indicates we are near the lode.

CLEMENTINA.—J. Roberts, W. Sandoe, June 10: We are pushing on with the new work at surface as fast as possible, and we hope in three or four weeks we shall start working. The stope at the adit level is producing very nice lead.

COMBMARTIN.—J. Harris, June 12: The ground in the adit cross cut has very much stiffened since we last reported for the meeting, having intersected a run of capels or bastard limestone, but we hope it will soon change again for killas: the end is also letting out a little water. In the north-west end we have intersected Harris's cross course, which has thrown the lode north, but we think from indications only about 6 or 8 ft., but as we have met with this cross-course we have put the men to rise to communicate with the surface for ventilation, which the mine is badly in want of, and we hope to accomplish this work in about a month, there being about 12 fathoms to rise to reach the surface. The leader part of the lode in the winze sinking below the adit level is 1 ft. wide, and leady throughout, all saving work, and at times we meet with a solid vein of rich silver lead. It is now worth fully 5 cwts. of lead per fathom, with a very promising appearance for a further improvement.

DENBIGHSHIRE CONSOLIDATED.—R. Prince, A. Francis, June 13: Main Lode: We are glad to say the lode in the 112 east has much improved during the past fortnight in opening upon its course, and it is now 3 ft. wide. As we get further away from the influence of the north and south the favourable change becomes more apparent, and at the junction of these branches we expect to come upon an extensive run of ore ground; the lode is of fine character, and is producing some good quality ore.—New Cross-cut North: Fair progress is being made here, and we are now nearly up to the line of the first lode, and judging from the appearances of the ground expect to cut it rich. This point will, no doubt, prove a splendid trial. Operations proceeding at the 80 fm. level show very favourably.

D'ERESBY CONSOLS.—J. Roberts, W. Sandoe, June 11: We have set the end driving towards Cobbler's lode, to six men, at 16*l.* per fathom, for 1 fm. The ground is very hard, harder than we have ever seen it. It is our impression that it is a hard bar or band close upon the lode, as is often the case, and, therefore, do not anticipate that we shall have far to drive in this sort of ground.

D'ERESBY MOUNTAIN.—T. Roberts, W. Sandoe, June 11: No. 1 is set to four men, at 7*l.* per fathom; lode large, producing good blende and a little lead. No. 2 end is set to two men, at 7*l.* 10s. per fathom. The lode is still yielding good blende, but it is not quite so large as it has been, still a kindly lode. The stope in bottom of No. 2 is set to four men, at 4*l.* 10s. per fathom. The lode is large, and contains a good mixture of lead and blende. The stope in No. 4, on the Hafna lode, is set to four men, at 3*l.* 5s. per fathom; the lode here is large, with good ribs of lead, and considering it to be a trial it looks, on the whole, very well. We are still unable to put more than two men in the large stope till more of the stuff is brought away, and these men are engaged a great part of the time blasting the large rocks. We have communicated the Gorse shaft with the No. 5 adit, and we shall with all possible speed push on towards the large stope. We feel, however, very much encouraged at finding at the bottom of the level near the shaft that there is a layer of rich leadstuff, which appears to have been deposited from time to time by the old workers in bringing back the lead from the stope at that level. From this circumstance it is very clear that however we may find the lode at the point we are coming at, the old men must have had a lot of rich lead there. We are glad to say that we have had a little rain, which is helping us a little in the dressing department.

EAST CARADON.—J. Kellow, June 11: To sink the winze below the 150, on caunter lode, 1 fm. stent, by nine men, at 20*l.*; it measured 1 fm. 2 ft.; the lode is 1 ft. wide, composed of quartz, peach, and mundic, with a little ore intermixed. In the last 6 ft. sinking the ground has much improved, with water issuing freely from the same. To drive the cross cut south at this level, 1 fm. stent, by two men, at 5*l.*; it was driven 1 fm. 3 ft.; the ground continues favourable, and fair progress is being made. Other operations continue without change. We have sampled a parcel of ores, 20 tons, of tolerably good quality, for sale on the 19th inst.

EAST CRAVEN MOOR.—David Williams, June 9: Good progress is being made in our various points of operation underground, and we have a good pile of dressed ore of excellent quality in the new ore bin. Messrs. Robey and Co. promised to forward the new winding engine with the special pumping arrangements this week. We have taken trouble in selecting and dressing large and massive blocks of stone for the bed and pillars, which are in a forward state. We have levelled the ground for engine-house, and the foundation for engine is now being cut, and no time will be lost in building same. The season being favourable, we work extra time in order to have the whole completed as early as possible. The new wire-rope supplied by Messrs. R. S. Newall and Co., of Gateshead, is on the mine, and the machine kibbles are being made. The galvanised corrugated iron for engine-house will also be delivered in time, and all the timber for the head-gear, &c., is also here. I am anxious to have all in full working order to resume sinking the shaft in the rich vein going down, worth 4 tons per fathom below the 54, this summer.

EAST ROMAN GRAVELS.—A. Waters, June 12: The south boundary shaft to sink below the 88, as per contract; now down 4 fms. 4 ft. below said level. The 88 to drive south of shaft, by four men, at 7*l.* 10s. per fathom; lode at present not to value. The 75 to drive south of shaft, by two men, at 8*l.* per fathom: lode 1¼ ft. wide, yielding good orestuff. No. 1 tribute pitch in the back of the 75 fm. level south, by three men, at 60s. per ton. No. 2 pitch, in back of ditto, by two men, at 90s. per ton. No. 3 pitch, in back of ditto, by two men, at 80s. per ton. Pitch in the bottom of the 50 north, by four men, at 75s. per ton. Pitch in back of 50 south, by two men, at 95s. per ton. Pitch in the bottom of 46 north, by two men, at 8*l.* per ton. Pitch in the bottom of 40 north, by two men, at 8*l.* per ton. Pitch in bottom of 20 south, by two men, at 95s. per ton. Tributers pay all cost, and 30s. per ton for dressing. We have to-day sent out samples of 30 tons of lead ore for sale on Thursday next.

GAWTON COPPER.—G. Rowe, G. Rowe, jun., June 7: The lode in the 117, driving west of cross-cut, is 5 ft. wide, of a very kindly appearance, yielding ore to the amount of 3 tons per fathom. We have resumed the drivage of the 105, east of cross-cut, by four men, carrying a part of the lode 6 ft. wide, which is yielding 4 tons of mundic and ore per fm. The lode in the stopes in the bottom of the 105, both east and west of winze, is worth 10*l.* and 18*l.* per fathom respectively. The stopes in the back of the 105, west of rise, is worth 8*l.* per fathom.

GLASGOW CARADON CONSOLS.—William Taylor, Wm. J. Taylor, June 10: We have not cut anything further in the 102 cross-cut south; we have suspended this for the time, and put the men to open east on the branch just cut. It is letting out water freely, and further draining the 90; we hope this will improve as it is opened away from the cross-course. There is not much change in driving east on the north branch at this level. In the 90 west we are expecting to hole to No. 1 winze on the north lode daily. In the 90 east the ground is a little more favourable, but the lode is still disordered and poor. The winze in the bottom of this level is worth 12*l.* per fathom. We are pushing on the cross cut south at this level towards the new south lode by six men, but have not cut any more lode yet. This level east, on new south lode, is worth 8*l.* to 10*l.* per fathom. There is no change to notice in the stopes or pitches since our last report. We sampled yesterday (computed) 180 tons of copper ore, which will be sold on the 19th inst.

GORSEDD AND MERLLYN.—W. Edwards, June 10: In the 90 east the men have carried the sump down 8 ft., and have raised some good lead ore. We intend now to continue the cross-cut further north, as we believe there is another vein in front of us. In the 70 west there has been no particular change in the last 7 or 8 yards driven, but we are now close to the spot where the run of ore should be intersected that was passed through in the 50. We are at present sinking a trial sump on the junction of the north and south vein in the 70 west, and think it will throw some light on this portion of the mine. In the 70 west the vein maintains its masterly character, and is producing the same quantity of lead as for some time past; it continues hard, however, but the progress has been the same as last fortnight. The tributers are raising their usual quantities of lead ore, and at the dressing floors I am glad to say we are very busy. The mine has much improved, and considering we have so much unwrought ground our returns should be good and lasting.

GREAT HOLWAY.—June 12: We still continue to make good progress in the erection of the new machinery over Roskell's shaft, which will be quite ready by the time stated, if not before. At Garden shaft we intend placing the men to sink upon the lode down to the adit level, as we believe by so doing we shall open up a very productive piece for stoping operations.

GREEN HURTH.—Wm. Vipond, June 6: There is very little change to notice to day in the ends of the 80, either north or south. I estimate that both ends are yielding close upon 5 tons of ore per fathom. The south end is now driven about 15 fathoms from the sump, and the north end about 13 fathoms. Every fathom of ground driven is leaving splendid stoping ground both above and below, in fact, I believe our present ends are nothing compared to the ore beneath our feet in the limestone. We have commenced to wall the sides of the new sump top, and shall get a start to sink this next week.

HERODSFOOT.—P. Temby, June 13: The 205 continues to yield about the same quantity of lead per fathom as last week; the lode appears to be getting in more settled ground again. The lode in the north end is still small (18 in. wide), producing saving work for the floors. I have to-day put the men to cross cut east; I think there is more lode standing in the side—we have begun to rise at this level for the new shaft. The lode in the south end of the rise is 2 ft. wide, with spots of ore, but not to value. The three stopes in the back of this level are worth on an average 18 cwts. of ore per fathom. In the 190 north there is no notable change in value this week; the lode is still 6 feet wide, and a rich looking one, being composed of carbonate of lime and quartz, mixed with lead throughout. No other change. We sampled to-day 46 tons of lead ore.

HINGSTON DOWN.—T. Richards, June 11: The pitches in the back of the 120 west continue to produce 10*l.* worth of ore per fathom. In the back of the 110 the lode will produce 12*l.* worth of ore per fathom, and is very promising. The lode in the back of the 45 east will produce 3 tons of ore, or 15*l.* per fathom. The lode in the deep adit west is producing in places a little rich copper ore, and is very promising. In the deep adit driving south the ground is moderately easy, and fair progress is being made.

LADYWELL.—A. Waters, June 12: The cross cut is now driven 9 ft. west of shaft. The lode in the 32, north of Webster's winze, is 3 ft. wide, yielding stones of lead ore. The lode in the winze sinking below the 16 south, close to the end, is 3 ft. wide, and worth about 2 tons per fathom. The stope in back of the 16 south is worth 1 ton per fathom. The 20 fathom level south is laying open tribute ground.

MARKE VALLEY.—Wm. George, James Stenlake, June 12: There is no particular alteration to notice in any of our pitches and bargains since last reported on; yet, while the ground in the 90 end west continues rather hard and troublesome for driving, we think the branches are looking a little more promising.

MELLANEAR.—John Gilbert, June 11: The lode in the 30 fm. level, west of Gundry's shaft, is 1½ ft. wide, producing a little saving work for copper ore. The lode in the rise in the back of this level is 1 ft. wide, and worth 1 ton of ore per fathom. The lode in the 40, west of shaft, is 1½ ft. wide, producing good stones of ore, and looking promising for an improvement. The lode in the 60, west of shaft, on the south-east part, is 4 ft. wide, and worth 2½ tons of ore per fathom. The lode in the winze in the bottom of this level is 4 ft. wide, and worth 3 tons of ore per fathom. The lode in the 60, west of shaft, on the north part, is 1 ft. wide, and worth ½ ton of ore per fathom. The lode in the 70, west of shaft, is 3 feet wide, and worth 3 tons of ore per fathom. The men cross cutting south behind this end have not yet discovered the south-east part of the lode, but we think they will do so in a few days, as they are intersecting branches of ore and fluor spar, which is very similar to the ground near the lode in the level above. The lode in the 80, west of shaft, is 3 ft. wide, and improved to 2½ tons of ore per fathom. The lode in the 90, on the south part, is 5 ft. wide, and worth 2 tons of copper ore per fathom, and a little saving work for tin. The rise in the back of this level is also worth 2 tons of ore per fathom. The lode in the 100, east of shaft, is 4 ft. wide, and worth 1 ton of ore per fathom; producing less mundic, and looking more promising than for some time past. The rise in the back of this level, west of shaft, is worth fully 2 tons of ore per fathom. There is no change to notice in the sinking of Gundry's shaft.—Skip Shaft: The ground in the 70 cross-cut, south of this shaft, is favourable for driving, and the men are making good progress, doing about 6 fms. a month. The lode in the 100 west of cross-course, west of shaft, is 3 ft. wide, and producing some very good stones of copper and tin ores, and letting out a good deal of water. We calculate to sample on Tuesday about 600 tons of copper ore.

MINERAL CORPORATION OF GREAT BRITAIN.—William Bennetts, June 12: HAFNA AND HIGH HAFNA MINES: No. 3 Adit Level: The men have done but little in driving the end this week, as I have been obliged to keep them at surface raising stone for the masons. The ground in the rise has become hard and spare for rising during the past week, but I hope soon to get through this "pinch," so as to make a speedy communication with No. 2 level—Surface Work: The masons have completed the walls of the wheel-pit, which is now ready to receive the wood frame. The crusher-house will be completed by Tuesday next. We are now storing all the water we possibly can in the new reservoir. The stone-breaker and tram-rails have arrived.

MONYDD GORDDU.—J. G. Green, June 11: As under, I beg to hand you setting list for ensuing two months. The 34 west, to six men, at 105s. per fm.; the end is letting out a lot of water, and I expect we shall have the winze drained in a few days, and a communication effected. The 34 east, to two men, at 65s. per fathom; lode large and poor. The 24 west, to six men, at 100s. per fathom; the end is in a large spurry lode, spotted with copper; we are pushing on this end as fast as possible to come under the western bunch of ore. The 24, south-west on caunter lode, to two men, producing saving work for the floors. The 12 west, to six men, at 130s. per fathom; the lode is 6 ft. wide, composed of quartz, felspar, and a blue slate rock, carrying a capital mixture of ore, worth 25 cwts. per fathom; the lode is full of vughs, lined with crystallised quartz and carbonate of lead, and presents a masterly and encouraging appearance. I have promised a premium of 10s. per fathom extra providing 3 fathoms per month are driven; ground at present very hard for exploring. To stope the back of the 12, on the slide, to eight men, at 80s. per fathom; the lode is 10 ft. wide, and worth 1¼ ton per fathom for that width. All the machinery is working well, and fair progress is being made in every department. I shall sample 20 tons of good quality ore, for sale on the 28th inst.

MORFA DU.—T. Mitchell, June 13: The stopes in the back of the 48 are not quite so wide as they have been, on account of the hanging wall having taken a sudden turn inwards; but this will, no doubt, open out again shortly, as it has done on previous occasions. The stopes in the back of the 36 are yielding very well. This place is now getting large, and we shall soon require a quantity of stuff to fill it up in order to keep the workings safe.

PANDORA.—H Nottingham, June 12: New Lode: No. 1 winze sinking under the 23 is now within 3 ft. of being holed to the 33 rise below. The lode has produced good lead for the whole distance sunk and risen. We have this month commenced another winze some 20 fms. south of this, on the north end of the No. 2 run of ore, the lode being now drained by the No. 1 winze. There we have a very wide lode, which to begin with is worth 1 ton of lead and 15 cwts. of blende per cubic fathom. No. 2 stope south is without change, being worth 15 cwts. of lead and same of blende to a fathom. We have been cutting the south end of this stope for the last two months, and leaving ore standing in a whole back above us.—Goddard's Lode: 23 Fm. Level: The stope in No. 1 winze, north of shaft cross-cut, is worth 12 cwts. of lead and a little blende to a fathom. The stope in No. 2 winze is worth 18 cwts. of lead and same of blende to a fathom.—Surface: We have been hindered with the dressing to-day through one of the driving-wheels of the jigging machinery getting loose. This we hope to see all right again to-morrow and work resumed. All other machinery is in good order. The weather has been very showery this week, and has brought us a little fresh water into the reservoirs.

PATELEY BRIDGE.—C. Williams, June 12: There is no particular change in any of the underground workings since my letter of the 8th inst. The Rake vein in the 30 east still maintains its size and promising character. The pulleys for the sump winze are in the station, and no time will be lost in completing the arrangements for this point. The new pumping machinery is working very satisfactorily, and seems to answer all the purposes required for many years to come.

PENHALLS.—S. Bennetts, P. Vian, June 7: The lode in the 70 east end is much the same as last reported—worth about 7*l.* per fathom. The two stopes behind this end are worth respectively 12*l.* and 15*l.* per fathom. The top lode in the 60 east end is at present small, yet containing some good tinstuff. There is also a small leader of good tinstuff in the lode in a winze below the 30, east of the flat-rod shaft. Elsewhere there is no change to notice.

PENNANT.—June 10: I am glad to inform you that our engine is working well. We have set 12 men to work the two stopes in the 60, at 30s. per ton, and they are proceeding very satisfactorily with their bargains. The 40 driving east, on the south lode, I am glad to say is improving, and I feel confident that there is good and productive ground in the back of this level, and as soon as we advance further on the course of the lode the produce will be greater than heretofore. We are making good progress at the dressing-floors, and altogether the mine has much improved.

ROMAN GRAVELS.—A. Waters, June 12: The shaftmen have this week resumed the sinking of the south engine-shaft below the 110. The various stopes and ends throughout the mine are yielding ore as per recent valuations, the 65 south still being worth 6 tons per fathom.

ROOKHOPE.—Thos Tonkin, June 13: Adit Level: I see no change calling for remark in the stopes on side vein; the ground is still very stiff, and the yield of

ore same as last week—15 cwt. to the fathom. The stopes near Gin shaft produce 10 cwts. to the fathom, and without change in the nature of the gangue. In the 15 we are getting some good work from the back and bottom of the drivage on side vein, near Low shaft, and the stopes east and west of the rise are in easy ground, which gives an average yield of 10 cwts. of ore to the fathom. The stopes near Gin shaft, in the back of this level, yield 8 cwts. of ore to the fathom. In the 25 the drivage at pump sump, east of Gin shaft, is greatly improved, both in the nature of the ground and yield of ore; this place now produces 20 cwts. of ore to the fathom. The stopes on flat in side vein, east of Low shaft, continue to give a fair yield of ore—15 cwt. to the fathom at present. The rise to communicate with this place will shortly be completed, when we shall be in a position to attack both side vein and main leader in some good stoping ground east and west of the rise. In the 42 the stopes east of Gin shaft, in main leader, look better this week; they nowyield 12 cwts. to the fathom, and the ground is not expensive to work. The stopes near the Low shaft, on side vein, remain unchanged. We have had some fine showers, and our reservoirs are all full of water. Dressing operations are going forward as usual.

SOUTH CONDURROW.—William Rich, William Williams, Henry Abraham, June 10: The lode in the back of the 93 east is worth 20*l.* per fathom. The 80 end east is worth 8*l.* per fathom. The 80, west of Plantation shaft, is worth 12*l.* per fathom. The 70 west is looking promising to improve, and carries a little tin. The 70 end, east of King's, is worth 7*l.* per fathom. The rise in the back of the 70 is worth 20*l.* per fathom. The 50 end, east of King's, is worth 8*l.* per fathom. The rise in the back of the 50 is worth 12*l.* per fathom. The 50 end, west of Plantation shaft, on the north lode, is worth 7*l.* per fathom. The rise in the back of the 50 is worth 9*l.* per fathom. The winze below the 50 is worth 10*l.* per fathom. The ground is easy for driving in the 50 cross cut north. The lode in the 40, east of King's, has a promising appearance, and yields low quality tinstone. The 30 end east is worth 7*l.* per fathom. The rise in the back of this level is worth 10*l.* per fathom.

SOUTH DARREN.—Henry James, June 12: The shaft is going down in very stiff ground: progress since last report 2 ft. 6 in.; present depth 7 fms. 4 ft. 6 in. below the 100. We have taken down a little of the lode, which contains good solid ribs of copper ore and a mixture of lead ore; its full size and value will be proved when the shaft is deep enough for the next level. The 100, west from shaft, is holed to the same level east from winze, and at the point of communication the lode is worth 2 tons of lead ore per fathom. After the tramroad, &c., is completed I shall put some of the men to drive on the solid branch of lead ore going towards the shaft on the south side of the level. In the end west from winze the lode is worth 2½ tons per fathom. The 90 end is wet and easy for progress—no other change. The stopes in the back of this level are worth on an average 1¼ ton per fathom. The stope in the back of the 80 is worth 1½ ton per fathom. The different tributes are producing fair average orestuff. All the machinery is working well, with a good supply of water.

SOUTH DE ERESBY MOUNTAIN.—Wm. Bennetts, June 12: No. 2 Adit: No. 1 lode, driving north towards the engine shaft, is still looking well. Nothing has been done on the east and west lodes for the last few days. The men have been employed in repairing the cartroad to bring up the steam-engine and pitwork, and, all being well, the whole will be on the mine in a day or so.

SOUTH TOLCARNE.—W. Rich, James Knotwell, June 11: We have timbered and secured the 36 east for several fathoms in length, and hope in a few days to reach the end and intersect the cross-course; this we think will drain the ground. The lode in the rise in the back of the 36 carries good stones of ore.

SOUTH WHEAL FRANCES.—A. T. James, June 12: The part of the lode on which Pascoe's shaft is being sunk is worth 30*l.* per fm. The 205 west is worth 8*l.* per fathom. The 205 east is worth 6*l.* per fathom. The 195 west is worth 10*l.* per fathom. The 185 west is worth 8*l.* per fathom. The 175 west is worth 10*l.* per fathom. The 185 east is worth 12*l.* per fathom. The stopes are looking well, and continue to yield their usual supplies of tin ore. The new shaft in the western part of the mine is 2 fathoms below the surface. This shaft is being sunk by six men, at 3*l.* per fathom. In this shaft we expect to intersect the south tin lode at the 70, where the lode is worth 15*l.* per fathom. The shaft will then be continued on this lode to the 160, where it will join the great flat lode, and where we anticipate good results. We consider the prospects of success in this part of the mine to be quite equal, if not superior, to what they are at Pascoe's shaft, and we hope in two years from this date to make good returns from this part of the mine.

TANKERVILLE.—A. Waters, June 12: To drive the cross-cut south towards the lode at the 220, by nine men, at 12*l.* per fathom. To drive the cross-cut west of shaft, by two men, at 12*l.* per fathom. The 206, to drive east of shaft, by four men, at 9*l.* 10*s.* per fathom; this end is still laying open a rich looking lode. The 206 west to drive, by four men, at 10*l.* 10*s.* per fathom; lode worth 1¼ ton of lead ore per fathom. To cut winze plat at the 206 west, by four men, as per contract. There are six stopes in the back of the 206 east, each let to four men, at 8*l.* 10*s.* per fathom, worth together 10 tons. Two stopes in the back of the 206 west, by four men each, at 8*l.* per fathom, worth together 3¼ tons per fathom. The 182 to drive east, by four men, at 8*l.* 10*s.* per fathom; lode producing good stones of lead ore. No. 1 tribute pitch, in back of the 182 west, by two men, at 5*l.* per ton. No. 2 tribute pitch, in back of the 182 west, by two men, at 5*l.* 5*s.* per ton. No. 3 tribute pitch, in back of the 182 west, by two men, at 5*l.* 5*s.* per ton. The tribute pitch in back of the 167 west, by two men, at 4*l.* 15*s.* per ton. The tribute pitch in back of the 142 west, by four men, at 5*l.* per ton. The tribute pitch in the back of the 130 west, by three men, at 5*l.* 10*s.* per ton. The tribute pitch in the back of the 120 west, by two men, at 5*l.* 5*s.* per ton. The tribute pitch in the back of the 100 west, by two men, at 5*l.* 0*s.* per ton. The tribute pitch in the back of the 92 west, by two men, at 5*l.* 5*s.* per ton. The tribute pitch in back of the 92 east, by two men, at 5*l.* 5*s.* per ton. The tribute pitch in bottom of the 82 east, by three men, at 5*l.* per ton. The tribute pitch in back of the 74 east, by two men, at 5*l.* per ton. No. 2 tribute pitch, in back of the 74 east, by two men, at 5*l.* per ton. No. 1 tribute pitch, in back of the 62 east, by three men, at 5*l.* per ton. No. 2 tribute pitch, in the back of the 62 east, by two men at 5*l.* per ton. The tribute pitch in back of the 42 east, by two men, at 5*l.* 5*s.* per ton.

TEESDALE.—June 5: West End Forehead: I think there is a little falling off in lead ore this week, though one of the shots fired while I was there revealed a strong ball of lead ore in the furthest corner of the working; the same width of vein continues, with appearances of getting still wider; the east cheek has not come up yet; the vein is a little easier too, and more reddish mineral thrown in. I like the way it is shaping, and it is a fairly good working to what we sometimes have had. West end stope, No. 1, continues with little alteration; we have got 2 feet more in height, and likely to get more forward. West end stope, No. 2, moves so slowly up that there is little change between one week and another; the ore, however, still continues, and improves upward; I fancied a slight change was on the west side, more red and cavernous. The north end on east branch improves as we get it more opened out; we have risen up 3 ft. above the random of the old man's drifts, and no signs of cutting through the place, which looks like making a good payable stope; it is evident the twitch we have in the forehead does not extend upwards. The dressings are getting away very well.

TEMPLE.—June 11: No. 1: The lode in the end is producing about 1 ton of lead per fathom, widening and improving.—No. 2: The lode is improving gradually, and producing 15 cwts. per fathom. The stope in the back is producing more than 1 ton per fathom. The winze from this level to No. 1 is communicated.—No. 3: The end is still unproductive of lead, but of very promising appearance, producing a little blende. The stope in in the back of this level produces fully 1 ton of lead ore per fathom. Surface operations progressing satisfactorily.

WEST ASHETON.—J. Garland, June 12: The driving of the 40, west of the boundary shaft, has been suspended for two or three weeks, while the pass to the 50 has been strengthened and secured, and during the laying of a new tramway from the shaft to the end this work has been completed, and the driving of the end resumed. The end is still poor, but there is some indication of an improvement shortly. No. 1 stope, in this level, is yielding saving work. No. 2 stope, in back of the same level, has fallen off in value, and is poor for some length, but yields about 2 tons of ore per fathom where productive—about 2 fms. in length. The driving of the 50 is going on without interruption, and appearances lead us to expect an improvement in the lode before long. The low tribute pitch in the back of this level is not looking so well as when last reported on, but still yields good work. One of the pitches in the back of the 60 is turning out a very fine pile of ore; this pitch is now nearly worked through to the 50. We sampled June 6, for sale to-day, about 33 tons of lead ore. The work for the new lift below the 60 is being pushed on, and if we can get the casting ordered from the foundry we hope to drop the lift next week.

WEST CRAVEN MOOR.—David Williams, June 9: Blackhill Adit Level: The vein in the end of this level has been for the last fathom in very tight or hard ground, but is again opening out, and has become easier to work, and we are continually cutting fresh feeders of water; the end is now within about 2½ fathoms of being under the new west shaft. At a point 6 fathoms west of the latter we have a rich course of ore going down in the sole of the 20, and should it continue rich in depth we shall very shortly intersect it in this level. We have cleared the plats at the new west and new east shafts, and also the latter shaft below the 20, and resumed sinking for a 30 fathom level, and so far excellent progress is being made in sinking. I purpose removing some of the men stoping in Blackhill level to sink a winze below the 20 upon No. 2 vein, in a rich course of ore. We have about 15 tons of clean ore, and can make up a parcel of 20 tons ready to smelt whenever it is considered advisable to do so.

WEST HOLWAY.—R. Rowlands, June 11: We are making fair progress with the new shaft, which I hope to get down quickly, so that we can properly explore the great discovery that was made some time since. We have a large extent of unwrought ground upon the course of the east and west lodes, from which good returns should be made at a comparatively small cost. The tributers are doing well, and prospects are satisfactory.

WEST WHEAL PEEVOR.—W. T. White, June 7: The men have driven about 4 fms. in the cross cut towards the lode. I can speak of no change relative to the congenial character of the ground, it being still of a most promising nature. I should say that with fair progress we shall intersect the lode about the latter part of this month.

WEST WHEAL TOLGUS.—June 12: The lode in the 155, west of Taylor's shaft, is 3 ft. wide, and yielding 1 ton of copper ore per fathom; this level is now just under the No. 1 winze sinking in the bottom of the 145. The lode in the 145, west of shaft, is 4 ft. wide, and yielding 1¼ ton of ore per fathom. The lode in No. 1 winze in the bottom of this level, west of shaft, is 3 ft. wide, and yielding 3 tons of ore per fathom; but by far the best part of the lode is in the western end of the winze; we resumed No. 2 winze this week, but have again met with water, and shall have to suspend the sinking until the bottom level gets a little further west. The lode in the 145, east of No. 1 cross cut, is 2 ft. wide, and yielding good stones of ore, but not sufficient to value. The lode in the 135, west of shaft, is 1 ft. wide, yielding a little saving work. The lode in the winze in the bottom of this level, west of shaft, is small and unproductive.—Richards' Shaft: The lode in the 95, west of shaft, is 4 ft. wide, with a little ore scattered throughout the lode. The lode in the 65, west of shaft, is 2½ ft. wide, and yielding some very good stones of ore. We estimate to sample on Tuesday next about 240 tons of copper ore.

WHEAL CREBOR.—John Andrews, June 10: The lode in the 120 east has very much improved during the past week, and is now 3½ ft. wide, and worth 10*l.* per fathom. The lode in the stope in back of the 120 is 5 ft. wide, and worth 10*l.* per fathom. The lode in the 108 east is 6 ft. wide, and worth 20*l.* per fathom. The lode in the winze sinking below the 108 is 7 ft. wide, and worth 40*l.* per fathom; this is the best course of ore I have ever seen in the mine, and what makes it of greater importance is seeing the winze is going down in whole ground, the 120 end being yet 7 fms. behind the winze. The 108 east is also going into new ground, which is now 9 fms. in advance of the winze and 15 or 16 fms. in advance of any other end in the mine. The rise in the back of the 48 is not yet communicated with the new shaft, but we expect to do so in a few days, as, according to the dialling, the ground is nearly spent.

WHEAL CREBOR.—John Andrews, June 12: The lode in the winze sinking below the 108 will still yield 12 tons of ore, and worth 40*l.* per fathom—a splendid course of ore. The lode in the 108 east is 6½ ft. wide, and worth fully 20*l.* per fm. No lode has been taken down in the 120 east since Tuesday, but we shall commence to take it down again to-morrow afternoon, when, from the indications of the lode I expect a further improvement.

WHEAL PEEVOR.—W. T. White, Jos. Pryor, June 7: Setting Report: Sir Frederick's engine shaft being in full course of sinking below the 8: there was no re-setting to day; the men are making fair progress in sinking. The 80 to drive west, at 5*l.* per fathom; lode worth 4½*l.* per fathom. The lode in this end was never so rich since we started from shaft as at present. The 70 to drive west, at 6*l.* per fathom; lode worth 13*l.* per fathom. The 60 to drive west, at 5*l.* 10*s.* per fathom; lode worth 20*l.* per fathom. The 48 to drive west, at 6*l.* per fathom; lode worth 10*l.* per fathom. The 36 to drive west, at 5*l.* 10*s.* per fathom; lode worth 40*l.* per fathom. The 36 to drive east of main rise, at 7*l.* per fathom; the lode is worth 9*l.* per fathom. The 36 to drive west of No. 1 cross cut, at 5*l.* 10*s.* per fm.; lode worth 8*l.* per fathom. The 36 fm. level to drive east of No. 1 cross cut, at 5*l.* per fathom; lode disordered by slide—expect soon to cross it. The 26 to drive west, at 6*l.* per fathom; lode worth 12*l.* per fathom. Rise in back of 26, west of cross-course, at 7*l.* per fathom; lode worth 18*l.* per fathom. Main rise in back of 16 west (carried 12 ft. long), at 8*l.* per fathom; lode worth 12*l.* per fathom. The deep adit level to drive west of cross-cut, at 5*l.* per fathom; lode worth 9*l.* per fm. Cross-cut to drive south (east of engine-shaft) at the deep adit level, at 6*l.* per fathom. We also set six stopes on tutwork, at prices varying from 2*l.* 2*s.* 6*d.* to 4*l.* per fathom; lode worth in each about 11*l.* per fathom. Our tribute setting takes place next month. As is seen from the foregoing report the mine continues to open up most satisfactorily, and our returns of tin are exceedingly good. At our meeting to be held about three weeks hence we expect to show a good profit on the sixteen weeks working, which we consider the best proof of the productiveness of the mine.

WHEAL UNY.—William Rich, Matthew Rogers, June 9: The lode in the 130 end east has a kindly appearance, and is worth 9*l.* per fathom. The 130, west of incline shaft, yields low quality tinstone. The 100, east of Gooding's, carries stones of tin. The 160 end, west of incline, is worth 10*l.* per fathom. The rise in the back of the 172, west of Hind's, carries stones of tin.

FOREIGN MINES.

ST. JOHN DEL REY.—Telegram from Morro Velho, dated Rio de Janeiro, June 9: Produce for the month of May, 37,500 oits. = 14,531*l.*; yield, 6·8 oits. per ton.—Crushed: 200 tons stamped in 15 days; yield 2 oits. per ton.

DON PEDRO.—Mining Captain's letter, dated May 9: General Remarks: The small quantity of ore obtained has been derived from stopes in No. 8 old shoot section, 21° north-east of Bryant's cross cut, and old workings adjoining; and, being of very low class, which is attributable to large quantities of debris mixed with the ore broken, &c., in opening out roadways for the better development of these stopes. Two stopes have been commenced in the above section, one being prosecuted in a north easterly direction and the other south westerly. The lode in that going in a south-westerly direction is improving somewhat in size and general aspects. The north-east stopes continue much the same as when last advised.—Prospective and Running Work: The repairs of No. 1 incline shaft, below carriage, on top of incline, are suspended *pro tem.*, and the force renewing timberwork over said carriage. No. 2 incline shaft still in hand. In No. 1 side level five props put in. No. 2 side level is undergoing repairs at intervals.—New Level: The requisite repairs of this are being pushed forward vigorously.—Adit Level: Several sets renewed. No. 1 shoot pass is well advanced, and we hope ere long to be able to complete this shoot. In Alice's level two sets put in, and back and sides lathed. Symons' shaft has been examined, and we find that some repairs are required at and above Harry's cross-cut.—The 60-ft. Wheel and other Machinery: The repairs of the 60-ft. wheel are advancing very fairly, and we hope ere long to put it to work. Keyways completed, keys put in, joints packed tight with dust; timberwork being now in hand and other works in connection with the same advancing well. When the repairs are completed there is no doubt but that it will prove a great success.

BIRDSEYE CREEK.—Telegram from Mr. G. S. Powers: We have cleaned up after a run of 30 days. The gross returns are $11,750; the profit is $7750.

RICHMOND CONSOLIDATED.—Telegram from the mine at Eureka, Nevada: Week's run, $47,000, from 810 tons of ore. Doré bars from refinery, $45,000.

— R. Rickard, Eureka, Nevada, May 26: During the past week operations both in mine and smelting have been carried on without interruption. The 200 cross-cut has been drifted 24 ft.; present end in limestone. The 400 quartzite drift has been advanced 27 ft, without any change to notice in the ground. The 500 north cross cut has been drifted 15 ft.; the present end is in hard limestone. The 600 main west drift has been advanced 14 ft.; ground very hard. The 600 south cross-cut has been drifted 16 ft. without any change to mention. The 600 cross-cut from chute has been drifted 27 ft.; the ground is easier for drifting. The 900 north cross-cut has been drifted 18 feet: the ground in this drift has changed; it is now in compact hard limestone. The chambers are without any particular change except in the northern end of No. 12, which has improved very much. A winze has been started from the bottom of the cave; it is now down 13 ft. in ore, and looks very promising. A drift has been started from the rise in the back of the 600 to come under the cave; we expect to strike ore in about 30 ft. more drifting.

SIERRA BUTTES (Gold).—Result of the working for May:—Sierra Buttes Mine: Total receipts, $31,404; total working expenses, $21,693.—Plumas Eureka Mine: Total receipts, $41,956; total working expenses, $22,609; outlay on improvements, $3000.

LONDON AND CALIFORNIA.—The clean up at the Original Amador Mine for the month of May is estimated at $6500.

BLUE TENT.—D. T. Hughes, May 17: Everything has run quite favourably the past week. Have commenced clearing up again at South Yuba, taking only small sections at a time, so as to utilise the water by washing late at night to make up for loss of time. Have started another blast at South Yuba claim, and continue washing nights at Gopher.

PLACERVILLE.—Isaac Thomas, May 19: During the past two weeks ending this date the fourth level has been driven north 20 ft., making a total length of 134 ft. Cross-cut from 600 ft. station has been driven 15 ft., making a total distance of 18 ft. Opening stopes; repairing old tunnel.

ISABELLE (Gold and Silver).—Lewis Chalmers, May 19: I am very much disappointed at the delay occasioned by our encountering a bed of gravel, which cannot be got rid of by power drills. I cannot yet say what is its extent, but do hope that it will not last long. I have got men ready to go on the night shift; but they have to lay off until we can again use the drills. I am getting out the gravel as quickly as I can, and the carpenter is busy getting out timber.

Foreman's Report: I herein submit my report for the week ending May 17:—Total distance from monument to face of tunnel, 287 feet; distance run for the week, 33 feet; number of shots fired, 5. On Thursday, the 15th, we ran into (unexpectedly) a bed of gravel, which will impede our progress materially: I am obliged to timber, which makes very slow work. From present appearances it cannot run very far. In consequence of striking gravel it lays our machines idle. My shift of men to run nights arrived on the 17th, and had the rock continued would have had a double shift running, and would have been able to report good progress.

CHONTALES.—W. White, May 5: The total quartz raised during the past month was 1232 tons. Total quartz treated, 1200 tons, which produced 241 ozs. of gold, or an average of 4⅕ dwts. per ton. Total cost for April, $3446, or 689*l.*—San Sebastian: Stoped from No. 1 stope, 137 varas; this No. 1 stope is now over the back of the old part of the main level driven previous to my arrival. The patches of lode met with here will about pay to take away, but we have to do a great deal of clearing among the old workings, which are all fallen together. Stoped 171 varas from a branch I found near the surface, north of the old workings and west of the above. In stoping this branch No. 1 stope came down on a bed of clay, but I shall follow it west, as it is now payable in that direction. We stoped from No. 2 stope 45 varas; the lode is 3 ft. wide, and worth 3½ dwts. per ton. We stoped from No. 3 stope 42 varas; the lode is a little improved, now 3 ft. wide, worth 4¾ dwts. per ton. We stoped from No. 4 stope 32 varas; the lode is 2 ft. wide, worth 2 dwts. per ton. If the lode does not improve here soon I shall remove the men to some other place. We stoped from the back of the lode, east of No. 4 stope, 7 varas; this is now suspended, as it would not pay to work. We rose in the new rise east 12 varas; the lode is 2 feet wide, and will now pay for the stamps. Total quartz raised, 841 cars, or 721 tons, worth on an average 4½ dwts. per ton. We also raised 135 cars of quartz from the new rise that would not pay to bring to the stamps.—Estrella Mine: We stoped from back of lode over the old workings, near the mouth of main level, 173 varas; there are about 200 varas more here that will pay to take away should the weather continue dry. We stoped from the back of the main level 138 varas; the lode is 3 ft. wide, worth 4 dwts. per ton. Total quartz raised, 596 cars, or 511 tons, worth on an average 4 dwts. per ton. The Easter holidays interfered with the last month's working. We had also some showers, which made the fuel damp for the engine, so that it was with difficulty some days we kept the stamps going, but it is not likely that the above hindrances will come together again for some time to come, and as the quartz is again a little improved I think we may safely calculate on much better results at the end of the present month.

GOLD RUN HYDRAULIC.—J. A. Stone, May 24: My last letter to you was on the 13th inst., since which time I have washed as steadily as possible, stopping only when obliged to move my giant ahead and for the Miners' Ditch Company to repair the rails in their flume. I am delayed very much by the Miners' Ditch Company; their rails having become badly worn require a great amount of repairing. I have now about 17 24 hour days' washing completed, and expect to clean up next Monday, May 26. I have washed a larger quantity of gravel on the top level, but cannot form much idea as to how much the clean up may be. In this run there will be but little from the bottom washing, not having cleaned any bed-rock to speak of. I have powder drifts nearly completed for another blast, in which I shall use 40 cases of Judson powder, which are equal to 80 kegs of black powder. The weather continues cold, and the probabilities are that water will last until August, or even later. During this run I have been blasting down a bed rock cut, preparatory for washing the blast on which I am now engaged.

PESTARENA (Gold).—The following are the returns of gold from these mines for the month of May:—From Val Toppa district, 246 ozs. 2 dwts. 12 grs., from 520 metric tons; yield per ton, 9 dwts 11 grs. From Pestarena district, 352 ozs. 6 dwts. 1 gr., from 325 metric tons; yield per ton, 1 oz. 1 dwt. 16¾ grs.; and from the district of Battigdio (by stamps and sundry mill trials with Cari ore), 5 ozs. 7 dwts. 15 grs., from 15 metric tons; yield per ton, 7 dwts.—making a total from the three districts of 603 ozs. 16 dwts. 14 grs., from 860 metric tons of ore amalgamated. Average yield per ton, 14 dwts. ¾ grs.

JAVALI.—May 5: The following is my report of the past months' working, with great regret we cannot send you so good a remittance this time, but you must take into consideration the Easter holidays, which caused us to lose about a week entire; in fact, the whole month the natives are reluctant to work, and only by placing the Germans in the mill were we able to work even the days we did, added to which only 20 stamps worked, and the stuff was poorer than usual.—Mine: 52½ varas were driven in the mine, the rest of staff crushed was as usual taken from the surface. The Concession Tunnel is completed, and the tramway nearly laid; we have already crushed 30 cars of manto from there; the prospects seem very fair.

Mill and Remittances.—20 stamps worked 19 days, crushing 1545 tons, which yielded 297¼ ozs. of gold, an average of 5 dwts. 3½ grs. You will see that the difference in the average yield was 1 dwt. 9¼ grs., in comparison with last month's. This decrease in value we have every reason to believe will not continue, and sincerely hope and expect to be able to send you a better return next mail. Some rain has already fallen, which is exceedingly unusual, and gives us hopes for a copious rainy season, which will do away with the enormous cost for fuel and labour for the engine.—Tailings Mill: Rather than entirely stop this mill, which is usually necessary in the dry season, we managed to work one pan, which although very irregular and slower, yet treated 65 tons of tailings, which yielded 20 ozs. of smelted gold, an average of 6 dwts. 3¼ grs., still showing an increase.

SENTEIN.—June 7: The managers report as follows: We are much pleased to report a continuance of fine weather. The season has changed from winter to summer, and the snow is rapidly disappearing. We see no reason why we cannot bring down our ore in a very few days, as we have made good and metalled the road to within about two kilometres of the houses at Bentaillou; the remaining portion will be completed as fast as the snow melts. Some of our miners have been engaged in clearing the snow preparatory to loading the ore-wagons, and assisting on the road, consequently we have not made so great progress underground as we had hoped, still we have done excellent duty, and have raised during the week about 120 tons of very good quality ore. We shall greatly increase our returns of ore directly the road is open, and a communication made made between Nos. 3 and 4 levels.—St. Eugenie: We are expecting to hole every day. The stopes and ends continue to yield an abundance of mineral, and we see no change to report in any part of the mine. The little parcel of ore brought down last year is now being dressed, and it turns out well. All our machinery is in good working order. We have commenced to prepare necessary work for the erection of No 1 stone breaker, and all our energies will be directed to effect this object as quickly as possible, as it will be a means of saving a vast amount of labour. The total quantity of ore raised to date is 3838 tons.

COPIAPO.—J. H. Vivian, April 28: At Fletcher's shaft good progress has been made in sinking during the last 15 days. We have from here about 30 gallons of water daily. The lode is poor. The winze sinking below the 150, south of shaft, still continues good, and will yield 5 tons of ore per fathom, but, as I have said in my former reports, progress is slow on account of the hard ground and water to contend with, of which we extract about 40 gallons daily. The 150 end south has very much improved, and will now yield 3 tons of 90 per cent. ore per fathom; the character of the lode and ground here is similar to that we have in the winze above mentioned. The 150 north is poor. In the 140 north the lode is 2 ft. wide, yielding some good stones of rich ore, but not sufficient to value. There is no change at any other point of operation. Our production of ores for this month will be 600 kilos. of about 30 per cent.—Checo: Copper Mine—Price's Shaft: In the 80 the winze is sinking by one man, and down 9 metres for the past month. The ground has been hard for sinking, and the lode of less value, during the past few days it is again looking more encouraging; at present the lode is about 18 inches wide, and producing about 1 ton of ore per fathom. In the 50 south, sinking by one man, the winze is down 6 metres; the lode is 2½ ft. wide, and yielding about 3 tons of ore per fathom. In both ends of the winze we are leaving good stoping ground. In the stopes in the back of the 50, working by four men, in No. 1 stope, east of rise, the lode has improved during the last few days, at present producing 3 tons of ore per fathom. The other points of operation continue about their usual value, yielding 2½ tons of ore per fathom. In the 40 north we have driven the end 6 metres on the course of the lode, which is about 3 ft. wide, containing a little ore, but nothing to value; the lode is at present looking a little more favourable, and I hope soon to have some improvement to report. Having a few days more to work I cannot properly estimate the production for April; I should think it will be about 30 tons of 15 per cent. ore.

CAPE COPPER.—Capt. Lanksbury, Capt. Henwood, April 30: Ooklep: We hope to make good progress in sinking the new shaft to the 68: the ground is principally composed of quartz, and spotted with copper ore. The 92, east of No. 23 winze, still produces a few stones of copper ore, but not in sufficient quantity to value. The rock is not looking quite so favourable for copper ore as it was a few days ago. The ground in the 80, east of No. 24 winze, has greatly improved of late; the present end is worth fully 7 tons of copper ore per fathom—so far as we can judge this driving is opening out a good piece of stoping ground. To prove the width of the copper ore we have started a cross-cut north about 27 fathoms east from No. 29 winze, or 7 fms. east of No. 30 winze; this level is worth 5 tons of copper ore per fathom. No. 30 winze was started in the early part of the month, and has now reached a depth of 16 feet 8 inches through ground which is on the average worth 6 tons of copper ore per fathom. The present bottom is not quite so rich—value 2 tons. The 68 fm. level east, from under the new shaft, has not undergone any change to notice since last report. We are pleased to state that the boring machine will start to-morrow, May 1, in this driving, and when in full operation we hope to make rapid development in this direction. In driving the 68 south east of No. 21 winze we have passed through some good bunches of copper ore, although the ground has been changeable throughout. The 68, south from No. 21 winze, is in unproductive ground at present, but shows every indication of an early improvement. There is no other change to notice in the mine. The stopes in the 80 and upper levels are yielding well.

SPECTAKEL.—Capt. Henwood, Capt. Lanksbury, April 25: We have begun to sink incline and cut the tip plat below the 53, and hope to make tolerably good progress. The 53 south-east has during the month opened out some good ground; at the present moment the end has fallen off in value, but we think that an improvement will shortly take place. The side of the level behind this end is being cut out preparatory to sinking a winze; the ground here is producing about 3 tons of copper ore per fathom. No. 2 flookan course has not yet been reached. In the new cross cut east, north of incline, the ground has become more favourable for driving. The 15 south, on flookan course, having again become poor, we have suspended it. The stopes are without change to notice.

NABABEEP.—Capt. Henwood, Capt. Lanksbury, April 15: The driving in the 28, south of shaft, has since last report produced some very rich stones of copper ore, but not in sufficient quantity to value. The stopes in the 17 have yielded large heaps of stuff for the dressing-floors. We are not prepared to speak of the 38, as the water is not yet in fork.—Returns: For April, Ooklep, 980 tons of 27 per cent.; Spectakel, 50 tons of 32 per cent.; Nababeep, 28 tons.—Bill of Lading received: 440 tons of ore per Julia.—Arrivals at Port Nolioth: The Glenadal and Ocean King.—Arrivals at Swansea: The Millie Bain and Hinda.—Sale of Ore by Public Tender: On June 4, 410 tons, at an average of 10s. 10d. per unit, realising approximately 6650*l.*

THE THARSIS SULPHUR AND COPPER COMPANY.

It was briefly mentioned in last week's *Mining Journal* that a dividend of 16½ per cent. was to be declared out of the profits of the fourteen months ended March 1, and the report of the directors which contains this announcement cannot but be considered as highly satisfactory when the unexampled depression in trade and commerce during the entire time in which the profit was earned is taken into account. With regard to the change in the position of the company sanctioned by the extraordinary general meetings of the shareholders the directors are satisfied with the wisdom and prudence of that step and they continue under the conviction that it will greatly strengthen the future of this company. The arrangements of the fusion with the French company are being carried out with as little delay as the circumstances have permitted. The necessary legal formalities have been so far attended to, and the treaty and articles of fusion have been registered in Scotland and in France. The legal steps required in Spain are also in progress. The French company have handed over all their assets to this company; their capital shares are in process of redemption; and on Feb. 28 last 8053 had been paid off, involving a total sum, with interest, of 83,470*l.* 2*s.* 4*d.* sterling. There still remained at that date 11,371 shares to be redeemed, equal in value to 118,292*l.* 13*s.* 4*d.* sterling; the money for which was duly provided, and remitted to Paris. The exchange of the French company's Jouissance shares for shares in this company is in progress, and will be gradually accomplished. The total cost to the Tharsis Company of acquiring, by this fusion of interests, the mines, property, and assets of the French company represents in round numbers, in cash and shares, the sum of 762,224*l.*; but, as the Tharsis shares were valued at 24*l.* per share, there is a premium accruing on them of 331,344*l.*, which has been deducted in the balance-sheet, bringing out a net sum of 430,900*l.*

It appears that during the fourteen months reported on rather over 13 per cent. less ore was raised than in the twelve months of 1877, the Tharsis and Calanas Mines yielding 419,632 tons; but this is accounted for by the interruption to our cementation processes during August, September, and October of 1878, from the excessive drought which then prevailed. Advantage was taken of this interruption to enlarge the storage of the principal reservoir, which now contains about 220,000,000 gallons of water—being double its former capacity. The last report alluded to the rainfall in 1877 having been 16·11 in., as compared with 31·50 in. in 1876, and stated that rain had begun to fall in the month of March, which it was hoped would continue. In this they were disappointed; for, although the rainfall of 1878 measured 19·9 in., 14 in. of this fell during the three last months of the year. They had then, and have had since, very copious rains, so that the reservoirs are now more amply stocked than ever before. Preparations were resumed last year for more thoroughly investigating the various mineral deposits at Tharsis. Several experimental shafts were sunk, and others further explored, and a series of bores put down, which will increase the company's knowledge of their resources.

As to the railway and piers, the report states that the net surplus from downward and upward traffic together amounted to 18,461*l.* 13*s.* 3*d.*, of which 5000*l.* has been carried to the reserve fund, and the balance of 10,461*l.* 13*s.* 3*d.* credited to the profit and loss account. The profit of 251*l.* 3*s.* 11*d.* obtained from the public traffic has been credited to profit and loss account. Of pyrites there were shipped 216,623 tons of large ore, and 17,203 tons of small ore—a total of 233,826 tons. Of precipitate there were shipped 66·9 tons. The additions to the works and plant in this country have amounted to 8542*l.* 7*s.* 9*d.*, and include 743*l.* 0*s.* 8*d.* spent in culverts and embankments at Widnes, 1165*l.* 14*s.* 5*d.* on additional plant at Oldbury, 846*l.* 4*s.* 2*d.* for new well at Cardiff, and 1883*l.* 9*s.* 4*d.* on the silver extraction plant at Garngad, where the extraction of silver from the copper liquors has now begun. The sum of 3903*l.* 19*s.* 2*d.* is an addition to the Cardiff works, and is the balance of the contractor's account for the cost of their erection, only paid after several years of litigation. All the repairs have been charged to revenue, and 5 per cent., amounting to 13,880*l.* 16*s.* 8*d.*, written off for depreciation, showing a reduction on the metal works property account of 8338*l.* 8*s.* 11*d.* The net available balance (profit and loss and balance brought forward) on March 1 was 199,728*l.* 14*s.* The directors recommend that the sum of 187,548*l.* 13*s.* be appropriated to the payment of a dividend of 16½ per cent., free of income tax, the whole being payable on Thursday next, July 10, and that the balance of 12,179*l.* 16*s.* be carried forward to the credit of the succeeding year.

Mr. William Abbott has issued with his usual monthly circular a well-executed map showing the systems of the Grand Trunk and Great Western Railways of Canada, and urgently recommends united action by the shareholders of the two companies to bring about a fusion of the two undertakings. Estimates are given, which show that something like 200,000*l.* a year, now spent in agencies and other charges, could be saved to the two companies by amalgamation; and Mr. Abbott suggests that a committee should be formed to settle the mode of amalgamation and the terms.

An important sale of 100,000*l.* ordinary A consolidated stock of the Gas-light and Coke Company, being the first portion of the additional capital authorised by resolution of the general meeting of proprietors on Feb. 14 last, is announced by Messrs. Edwin Fox and Bousfield to take place at the Cannon-street Hotel, London, on June 19. The company which was established by Royal charter in 1812, boasts of stock and share capital of 7,268,000*l.* and is now believed to be the largest gas company in the world. The dividend last year was 10½ per

cent., and the price of the company's A stock has ranged during the past month from 177½ to 183 per 100*l.* The capital now offerred is required for the extension of the company's works and plant to enable them to meet the increased demand for gas in the suburbs of London.

*** With this week's Journal a SUPPLEMENTAL SHEET is given, which contains—Original Correspondence: On Hauling Coal Underground—No. III; the Furnace Chemistry of Iron and Steel (T. Blair); a New Process of Metallurgy (J. S. Merry); Manufacture of Iron and Steel (J. Holloway); Caloric Engines; Is it Right to Pay Purchase-Money for Mines? (W. Salmon, H. D. Hoskold); Boorook Silver Mines, New South Wales (R. D. Adams); Railways of New South Wales (R. D. Adams); Central Railway Company of New Jersey; Richmond Consolidated Mining Company (E. Dearle, R. M. Brereton, J. Elliott); Flagstaff Mining Company; Ruby Consolidated Mining Company; Chontales Mining Company; the Tharsis Company's Accounts; Demonetising Silver (J. Elliott); the London Coal Supply (W. J. Thompson); Strikes; Cornish Mining, and its Unrought Ground (C. Bawden); Mining in Cardiganshire; Roche Felspar Works; British Silver-Lead Works; South Cambrian Mines (A. Williams); Foreign Mining and Metallurgy.

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The Mining Market: Prices of Metals, Ores, &c.

METAL MARKET—LONDON, JUNE 13, 1879.

IRON.	£ s. d.	£ s. d.
Pig, GMB, f.o.b., Clyde..	2 1 6-	—
,, Scotch, all No. 1 ...	2 4 0-	3 5 0
Bars, Welsh, f.o.b. Wales	4 12 6-	—
,, ,, in London.	5 2 6-	—
,, Stafford., ,, .	6 5 0-	7 0 0
,, in Tyne or Tees ...	5 5 0-	5 10 0
,, Swedish, London ..	8 10 0-	8 15 0
Rails, Welsh, at works..	4 15 0-	—
Sheets, Staff., in London	7 10 0-	7 15 0
Plates, ship., in London	5 12 6-	—
Hoops, Staff.	6 10 0-	7 2 6
Nail rods, Staff. in Lon.	5 15 0-	6 5 0
STEEL.		
English, spring	13 0 0-	19 0 0
,, cast	30 0 0-	40 0 0
Swedish, keg.....	13 0 0-	—
,, fag. ham.	15 0 0-	—
LEAD.		
English, pig, common .	13 10 0-	13 12 6
,, ,, L.B.....	13 15 0-	—
,, ,, W.B.	14 0 0-	—
,, sheet and bar..	14 5 0-	—
,, pipe.....	15 0 0-	—
,, red	15 15 0-	—
,, white 25	0 0-	—
,, patent shot ...18	0 0-	—
Spanish	13 5 0-	—
NICKEL.		
Metal, per cwt 18	0 0-20	0 0
Ore, 10 per cent. per ton.24	0 0-26	0 0
QUICKSILVER.		
Flasks of 75 lbs., ware..	6 0 0-	—
SPELTER.		
Silesian..... ..	14 2 6	14 7 6
English, Swansea	16 0 0-	—
Sheet zinc	19 0 0-	19 10 0

TIN.	£ s. d.	£ s. d.
English, ingot, f.o.b...	65 10 0-	—
,, bars ,, ...	66 10 0-	67 0 0
,, refined.....	69 0 0-	—
Australian	67 5 0-	—
Banca ..... (nom.)	68 10 0-	—
Straits	67 5 0-	—
COPPER.		
Tough cake and ingot.	60 10 0-	—
Best selected	61 10 0-	—
Sheets and sheathing .	64 0 0-	—
Flat Bottoms	69 0 0-	—
Wallaroo	63 10 0-	63 0 0
Burra, or P.C.C.	62 0 0-	62 10 0
Other brands	61 0 0-	62 0 0
Chili bars, g.o.b.....	55 10 0-	—
PHOSPHOR BRONZE.		
Bearing metal	£103	0 0
Other alloys	£110 0 0-	125 0 0
BRASS.		
Wire	7 d.-	7½d.
Tubes.....	7¼ -	7½
Sheets	8 -	8¼
Yel. met. sheath. & sheets.	5½ -	5¾
Nails composition.....	7¾ -	—
TIN-PLATES.*	per box.	
Charcoal, 1st quality...	1 1 6-	1 2 0
,, 2nd quality...	1 0 0-	1 1 0
Coke, 1st quality	0 17 6-	0 18 6
,, 2nd quality	0 16 0-	0 17 0
Black .....per ton	16 0 0-	16 10 0
Canada, Staff. or Gla., at Liverpool	11 0 0-	12 0 0
Black Taggers, 450 of 14 × 10	30 0 0-	—

* At the works, 1s. to 1s. 6d. per box less for ordinary; 10s. per ton less for Canada; IX 6s. per box more than IO quoted above, and add 6s. for each X. Terne-plates 2s. per box below tin-plates of similar brands.

REMARKS.—Apparently there was no new feature of any particular importance in the general condition of the metal trade, but owing to the brighter and more settled appearance of the commercial and political horizon, it would almost appear that we are now rapidly approaching the end of the lengthened depression, but sellers have not yet been able to obtain higher prices through any increase in trade, though from other causes one or two metals have slightly improved in value. The demand still remains languid both for home consumption and exportation, and while this state of things continues it is altogether hopeless to look forward to any vast improvement in price unless something arises to check the future production, in which case, after stocks have been reduced, higher rates may be anticipated. It is generally believed that shipments to India have of late slightly increased owing to the higher rate of exchange, but whether this is so or not it is certain there has been no advance in prices, but on the contrary, as the exchange has improved here the lower have prices receded in India, and consequently our market has received little or no benefit. A want of animation is, therefore, observable throughout the whole trade, and through the constant absence of many buyers transactions are limited, and the fluctuations in quotations are most unimportant.

Seldom, if ever, has there been a time before this when speculators have shown so much apathy, and this is the more remarkable as there is some slight prospect of recovery in business, and a fair chance of better prices. But the heavy losses which many operators have suffered have greatly discouraged them, though the lesson has proved a most instructive one to them, and they are less likely now to enter into contracts at random, and will undoubtedly observe proper caution before committing themselves to fresh engagements. At the same time speculators must not be scrupulously cautious or over cautious, for in so doing they may err on that side, and so miss a favourable opportunity. Notwithstanding heavy stocks, excessive supplies, and bad trade which have occasioned such enormous depreciation, there is much to be said that may tend in a little time to give a different complexion to our market; but the English manufacturer must first show himself equal to the foreign manufacturer in the matter of price before he can expect to realise more profit. The cost of English production ought to be less, and certainly must not exceed that of foreign productions.

COPPER.—The copper market remains steady, and sellers continue firmer in their quotations for unwrought, but for manufactured the market is rather easier, and the reaction which has taken place in the Indian Exchange will probably for a time prevent further orders being given out for the East. Australian and Chilian brands have been quoted about 10s. to 20s. per ton higher, but it is questionable whether this advance can be maintained unless an increased demand for manufactured sets in. Nevertheless, it is to be hoped that everyone connected with the trade will put forward their best efforts not only to keep up the advanced rate, but also to improve upon it, for there has already been so much money lost over this metal that none can afford to lose any more, but profitable transactions are required to make amends for past misfortunes. Yellow metal has again receded to 5¾d. per lb. for the ordinary 4 by 4 sheets, but a limited number of enquiries now come to hand for exportation even at this low price. A higher value might easily be realised for copper, without injuring consumption, if the principal producers would only take the trouble to come to some common understanding to temporarily reduce or regulate supplies whereby existing stocks could be worked off to reasonable dimensions, and the longer they delay in effecting such arrangement the more adversely their interests will be affected.

IRON.—The iron trade remains in an unsatisfactory condition, though the improved demand for bars which we reported a few weeks back may be said to have been maintained. The anticipation of an extension of the Russian railways has at present made no difference in the general condition of the trade, but eventually should the requirements for this empire be as large as is now recommended, probably a favourable improvement would be made on our market for rails in a comparatively short time. Doubtless, to secure these orders, our masters will have to contend against very keen competitors of other countries, and, therefore, they will have to quote very low to ensure the contracts. The Middlesborough markets are reported quiet, and as sellers are not reducing their prices so rapidly as buyers expected, business has remained very restricted. Nevertheless, makers have not maintained their quotations of last week, though the reduction is but a trifle below the price asked for, No. 3 being 34s. 3d. to 34s. 6d., and No. 4 forge 33s. 6d., but merchants are most reluctant to place their orders at anything above 6d. under this price. Shipments are said to have maintained their usual average, but the reports received from Germany of the operation of the new duties are expected to prejudicially influence the English trade.

It is stated that rather a better business is doing with Wales, and there has also been observed a slight improvement in the shipments to Scotland last week. Several furnaces which had been damped down have again been put in blast, and it is to be hoped that for the future orders may come forward more freely, that there will be no necessity to permit these furnaces to again lie idle. Great distress still prevails at Cleveland, but it is expected that now more ironstone is wanted the mines will give out more employment, and thus partly relieve the existing distress. The manufactured trade, though showing no marked improvement, does not now compare unsatisfactorily with the condition it was in a few weeks back, as producers of ship-plates are reported fairly busy, and a few of the works which have been recently closed, owing to the scarcity of orders, have re-opened. Ship-plates are quoted at 8*l.* 2s. 6d. to 8*l.* 8s., and bars at 8*l.* per ton.

There is little or no change to be noted from Newport. The demand keeps quiet, and business remains anything but brisk. There is not much doing in bars and pigs in this district, and next to nothing in rails. Clearances keep particularly small, and the export demand remains very limited. The market at Sheffield remains dull, though some revival is anticipated ere long. Quotations show little change, but pigs are rather firmer, the present price being 35s. 6d. per ton, but other descriptions are quoted slightly lower. It is, therefore, expected that if the colliers rest satisfied with the result of the recent arbitration, and do not go in for an advance of wages, an improved trade will shortly be brought about. There is nothing fresh to report from Birmingham. The Belgian and German competition still affects the trade in this district, and there is but a very small mercantile demand, and consequently the various mills remain inactive. There is no improvement to be reported in the West Yorkshire iron trade, but it is stated that there has lately been a spasmodic inquiry for best Yorkshire bars and plates, though prices are too low to allow of any profitable returns.

A fair business has been transacted on the warrant market at Glasgow, the market opening on Monday at 42s., and remained firm all that day, and closed at 42s. 1½d., and further advanced on Tuesday to 42s. 3d., and to-day's quotation is 41s. 6d. The shipments of pig iron from the United Kingdom, according to the Board of Trade Returns for May, are reported to show an increase of 54,544 tons over May, 1878, which comprises 36,531 tons for Holland and Germany, and 18,013 tons for other countries. Nevertheless prices of makers' iron in Glasgow continue dull.

SHIPMENTS.

For the week ending June 7, 1879 ..... Tons	8,402
For the week ending June 8, 1878.....	7,008
Increase	1,394
Total increase for 1879	56,281
Imports of Middlesborough pig-iron into Grangemouth:—	
For the week ending June 8, 1878 ..... Tons	5,309
For the week ending June 7, 1879.....	4,072
Decrease	1,237
Total decrease for 1879	30,698

FURNACES.

In blast June 7, 1879	89
In blast June 8, 1878	90

TIN.—There is no very great change in the general condition of this market, and sellers have not made much alteration in their quotations. The resolution passed last week by the tin-plate manufacturers at Swansea to continue the reduced make of tin-plates for the remainder of this year is not calculated to increase the home consumption of this metal, and as the requirements for exportation still keep limited there is not much chance of stocks being greatly reduced yet awhile unless future supplies continue to come forward in diminished quantities, but as the imports lately have shown a reduction a favourable impression may probably be made upon stocks, and then sellers would probably have little difficulty in realising higher quotations. Buyers, however, just at present evidently do not anticipate any marked increase in prices, for they still limit their orders to their daily wants; but they should be careful not to be too dilatory, as quotations may rise faster than is generally expected. Many purchasers have been placed in more unsatisfactory positions than they otherwise would have been by the sudden fluctuations which have taken place in this metal on more than one occasion, and there is at present nothing to prevent another of these sudden rises occurring at any moment; and, therefore, buyers should ever remain on the *qui vive*.

LEAD.—This metal continues very dull of sale, nevertheless the imports keep on a most extensive scale, and much above the requirements of the trade. It is well, perhaps, at the present moment that there are no statistics published for this metal showing the total stock in existence, for if it were made known sellers would doubtless have difficulty in maintaining even the present low prices.

SPELTER.—The demand keeps slack, and prices remain easy, and in buyers' favour.

STEEL.—There is no improvement in the general condition of this market.

TIN-PLATES.—This market shows little or no change.

QUICKSILVER.—Business has not yet been resumed, and the quotation of 6*l.* is consequently nominal.

MESSRS. PIXLEY and ABELL—GOLD: The arrivals since our last are 356,000*l.* per P. and O. steamer Poonah (of which 160,000 sovereigns) and 20,000*l.* per Royal Mail steamer Para from the West Indies, not yet delivered. The continental demand has been sufficient to absorb the bar gold ex Poonah. About 161,000 sovereigns have been sent into, and 75,000 withdrawn from, the Bank of England. The P. and O. steamer Australia, leaving Southampton June 12, takes 30,000*l.* in bars and coin from Bombay, and 10,000*l.* in coin for Madras.—SILVER: During the past week there has been considerable fluctuation in our market. The quotation in our last circular was 52⅝d to 53¼d. per ounce standard. A reaction subsequently set in, and about 40,000*l.* ex Pacific steamer Liguria was sold on June 9 at 51⅜d. Our rates are again firmer to-day, and sales have been made at 52⅝d. per ounce standard, the tendency being firm. About 66,000*l.* in bars and coin have arrived from New York. The P. and O. steamer Australia takes 31,000*l.* to-day for Bombay. The Para from the West Indies brings only 10,000*l.*

CHEMICALS, MINERALS, AND METALS.—Messrs. J. Berger Spence & Co. (June 7)—Alum: Loose lump, 6*l.* 2s. 6d. to 6*l.* 5s.; ground, 6*l.* 15s.—Arsenic: Best white powdered, 8*l.* 15s.—Borax: Refined, English, 36*l.*—Copperas: Green, 50s. 0d.; white, 8*l.* 15s.—Copper: Sulphate, 18*l.* 5s. to 18*l.* 10s.—Nitrate of Lead, 30*l.* 10s.—Saltpetre: Refined English, 23*l.* 15s. to 25*l.*—Sulphate of Zinc, 9*l.* 0s. 0d.; —Sulphur: Roll, 8*l.* 10s.; flowers, 10*l.* 10s.—Tin crystals, 5¼d. per lb.—White Lead, 20*l.*—Barytes: Carbonate, 5*l.*—Brimstone: Best thirds, 5*l.*—China-Clay, 38s.—Oxide of Zinc, 22*l.* 10s.—Talc, 5*l.*—Umber, 70s.—Charcoal: Best stick, 4¼d. per bushel; field burnt, 6d.—Globe Steam-Boiler Powder, 16s. per cwt.—Naphtha, Miscible, 60 per cent., 4s.

The MINING SHARE MARKET has been decidedly better this week, and a fair amount of business has been transacted, notwithstanding the settlement of the fortnightly account, which has occupied the chief attention of the dealers. The mines dealt in have included Wheal Crebor, South Frances, Wheal Peevor, Great Laxey, Morfa Du, South Condurrow, Roman Gravels, and a few others.

TIN.—No change has taken place in the standard for ore, but tin mines have been firmer, though very little change has taken place in quotations. Dolcoaths are quoted 26 to 27. Cook's Kitchen, 1½ to 2, Wheal Peevors have advanced to 9¾, 10¼; at the meeting, in about a fortnight, a dividend of 10s. per share is expected. The bottom level is reported worth 45*l.* per fathom, and the total points in operation in the mine are valued in the aggregate at 265*l.* per fathom.

Carn Brea, 25 to 27; at the meeting, on Thursday, the accounts showed a loss on four months' working of 337*l.*, and a debit balance of 19,233*l.* No call was made. The tin sold realised 10,907*l.*, costs charged to the end of April. Tincroft, 9¼ to 9¾; at the meeting here the accounts showed a profit on four months of 567*l.*, and a debit balance of 9020*l.* The tin sold realised 7331*l.*, and the costs charged to end of April. South Frances, 8¾ to 9; a new shaft has been commenced in the western ground to take the flat lode 150 fathoms deep. This will be a long and expensive affair, but the dividends will probably be kept up at the rate of the last one, as there was a considerable balance left in hand, and the mine has since been making large profits. East Lovell, 10s. to 20s.; an improvement is said to have taken place here. Penstruthals have advanced to 2s., 3s.; a new scheme has been promulgated, which if carried might result in a valuable property, especially should tin and copper advance. South Condurrow, 11¼ to 12; we understand the 70, west of Plantation shaft, which is entering the new western ground, is not looking so well, but the falling off may be only temporary. West Basset, 4 to 4¼; West Frances shares have become very quiet again, at 5¼ to 6; Wheal Basset, 20s. to 25s.; Wheal Grenville, 4 to 4¼; West Peevor, 2¼ to 3.

COPPER is firmer, and there has been more business doing in copper mines. Devon Great Consols are quoted 1¼ to 2. Mellanear, 3¼ to 3¾; West Seton, 12¼ to 15; West Tolgus, 22½ to 25. Wheal Crebors have been in considerable demand, and leave off 25s. to 30s. The winze sinking below the 108 fm. level has improved from 20*l.* to 40*l.* per fathom, and said to be the finest lode ever seen in the mine. The 120 end east is worth 10*l.* per fathom; the 108, 20*l.* per fathom. This winze will, of course, be anxiously watched, and made the means of working the shares up and down, and constant fluctuations may be looked for. It will take two months to get the winze down to the 120 and enable returns to be increased. Parys Corporation, 10s. to 11s.; Morfa Du, 16s. to 18s.; Marke Valley, 10s. to 15s.; South Caradon, 50 to 55.

LEAD MINES have been dull generally, and but few transactions recorded, and prices nominal. Vans are better at 17 to 18, but no change in the mine. Roman Gravels have been firm, and in request at 8½ to 9. Tankerville, 3¼ to 3¾; Bettws-y-Coed, 15s. to 20s.; Denbighshire Consols, 1¼ to 1⅜; East Van, 1⅜ to 1⅝; Glenroy, 5s. to 10s.; Great Laxey, 15½ to 16½; Leadhills, 1⅜ to 2⅛; West Chiverton, 2½ to 3½, call paid; West Holway, 1 to 1½. Pateley Bridge (new), 7s. 6d. to 10s.; the machinery is working well, and the mine is without change. West Pateley, 2 to 2¼; Caron, 2 to 2½; Frongoch, 1⅞ to 2; Grogwinion, 2¼ to 3; Hartington Moor, 1½ to 2; Mawston, 1½ to 2; Red Rock, 2 to 2½; St. Harmon, 1 to 2; South Cwmystwith, 1 to 2; West Wye Valley, 1¼ to 1⅜; Wye Valley, 1 to 1½; Herodsfoot, 3 to 3½; the sampling here is 46 tons. Gwernymynydd, 4 to 4¼.

FOREIGN MINES.—Arendal, 3½ to 4½; Cape Copper, 27½ to 28½; Blue Tent, 2¼ to 2½. Birdseye Creek, 7s. 6d. to 10s.; the advices by telegram show—May working, $11,750; profit, $7750. Chontales: the advices this month show a return of 261 ozs. of gold, valued at 689*l.*, and at a cost estimated at 689*l.* The quartz has improved, and better results are anticipated next month. Javali return is valued at 1050*l.*, and the costs at 928*l.* Placerville, 2¼ to 2½; Colorado, 1⅝ to 1¾; Don Pedro, 18s. to 20s.; Canada Gold, 2 to 2¼; Eberhardt and Aurora, 3¼ to 3⅝; Frontino and Bolivia, 1¾ to 2¼; Hultafall, 1¼ to 2; New Quebrada, 2 to 2¼; Panulcillo, 25s. to 27s. 6d.; Richmond, 7¼ to 8¼; St. John del Rey, 260 to 270; Santa Barbara, 1¼ to 2¼.

The Market for Mine Shares on the Stock Exchange has shown more animation than for several weeks past, and a fair amount of business has been done. Although there has been no quotable improvement in metals, copper, tin, and lead mine shares have all participated in the increased enquiry. The subscription lists of the recently launched companies have filled much less rapidly than was anticipated, yet sufficient support has been received to ensure their complete organisation. In the case of the Missouri Lead Mining and Smelting Company it became known at the beginning of the week that since the Richmond meeting a large number of Richmond shareholders had subscribed for Missouri shares (the Chairman of the Richmond Company occupying the same position in the Missouri), and as a consequence much more attention was directed to the enterprise. It is now stated that the directors will shortly be in a position to announce the closing of the list, and it is generally felt that, considering the large margin between the manufacturing and selling prices of lead in Missouri even beyond the 9*l.* per ton protective duty, will ensure excellant profits being realised, more especially as the soft lead (regarded as equal to best soft Spanish) sent into the market by the company will command a ready market owing to that quality being produced in but few other districts in the United States. The companies for working home mines are likewise progressing towards complete organisation, and it is not doubted that a very small improvement in the metal markets would lead to a general revival of confidence among investors.

The Nerbudda Coal and Iron Company's directors' report, prepared for presentation at the forthcoming meeting, whilst regretting that the operations of the past year have not proved so satisfactory as had been hoped, expresses confidence in the future of the company. The explanations given by Mr. James A. Maughan, M.E., the company's manager in India, as to the cause of the disappointment is satisfactory. Referring to the property, Mr. H. B. Medlicott, Government superintendent, Geological Survey of India, says that when he visited the mines at Mohpani in December, 1876, everything was at the worst; the coal was approaching exhaustion within the known limits of its occurrence, and there was no appearance of a serious endeavour to prove the coal beyond those limits. All the coal that is now being raised is from new ground, beyond those limits, although steps have been taken for the removal of what coal remains in the old working. The new mine is worked from the old No. 2 shaft, but it lies to the south and east of the small faults against which the old workings had stopped, and in the direction which he had always urged as the most favourable for exploration. No one has ever doubted the extrusion of the coal in this direction, but it has been suggested by competent authority that it might be faulted down to the south, so as to be out of reach. Mr. Medlicott has never found observations to justify such an opinion, and has always opposed it, but the possibility of such a structual feature has made the actual discovery of coal in this position a point of great importance. The new mine opened by Mr. Maughan has, he thinks, set this question at rest; the main (30-ft.) seam in full force has now been followed for nearly 400 feet to the south, under the covering Mahadeva rocks; and there can scarcely be a reasonable doubt that an immense supply of coal is within reach in this field. Although the main point is thus settled, and any fears of the approaching failure of the field may be set aside, there are still difficulties to be overcome and expense incurred before a large output of coal can be accomplished. The proximity to the edge of the basin, and the effects of disturbance concentrated in that position, are still greatly felt in the new working, the seams being subjected to frequent and complicated slips, which render the mining of the coal difficult and tedious. It is explained that the pumping shaft is to the rise, and Mr. Medlicott continues that it will before long be impossible to follow the seams until a new shaft is sunk well to the deep, so that the mine can be unwatered directly from the lowest point. In view of this undertaking the want of proper exploration of the ground by borings is greatly felt. It is quite possible that the "new winning" shaft, begun some years ago on the Mulpee Plain, may be in a most suitable position for the complete opening out of the mine now begun, but it would certainly be desirable to make sure of the position beforehand by boring. The two works might, perhaps, be carried on at the same time. Mr. Medlicott having been specially deputed by the Chief Commissioner of the Central Provinces to examine the collieries and report thereon, the opinion of so high an authority is very encouraging, and was quite unsolicited by the company. The most important matter is the sinking of the new shaft on the Mulpee Plain, in order to get to the deep. To enable the manager to effect this speedily one of Colonel Beaumont's percussion drills has been sent out, at a cost, including freight, of about 100*l.*, and it is expected that with this machine the work of sinking will proceed with great rapidity. Of the 6000*l.* debentures referred to in the last report 3000*l.* have been placed. A further 2300*l.* has also been borrowed this year, and this amount will probably require to be somewhat increased to meet the additional expense of sinking the new winning.

Pontgibaud, 18 to 20 xd.; it was remarked last week that the arrangement for the amalgamation of the Pontgibaud and Couëron properties appeared to be very desirable, and this view is very generally taken by the French shareholders. The Crédit National quotes an opinion which represents the general feeling entertained. "A careful and thoughtful examination of the position of the two concerns leads one to believe that the Pontgibaud Company has a substantial interest in entirely absorbing the Couëron Company and taking the management of it, for really the diminution of the Pontgibaud dividends is not due to its connection with Couëron, but to the constant and extraordinary decline in the price of lead during almost three years. And its dividends would be smaller if the veins were to fall off in their produce for silver, which is not impossible. They would then be glad to refind in the various metallurgical products manufactured at Couëron a part of past prosperity. It is true that Couëron has not yet yielded dividends, but that is merely because the old furnaces have alone been in operation up to this time, and have had to struggle against the fall in lead. The new works for the rolling of lead, copper, and zinc are now finished and in the best possible working order, is now beginning to send into the market products remarkable for their quality and manufacture, and which are already much appreciated. All that is wanted for their complete development is a larger amount of working capital. The Pontgibaud Company could easily supply this, and thus assure itself for the future satisfactory returns. The whole of the Couëron establishment would be taken over in exchange for a certain number of Pontgibaud new shares, of which two-fifths would revert by right to the Pontgibaud shareholders themselves.

Tharsis, 22½ to 23½; an abstract of the directors' report, which is encouraging, will be found in another column.

New Quebrada, 2 to 2¼; the report of the directors, with accounts annexed, prepared for presentation at the forthcoming general meeting, are considered satisfactory. The sales of copper, 34,693*l.* 6s. 9d., and of timber, 51*l.* 11s. 2d., together 34,744*l.* 17s. 11d., exceed the total expenditure in Venezuela by 333*l.* 17s. 8d.; the mine cost, transport, and every expense connected with the sale of the copper (including the Venezuelan administration) being 34,411*l.* 0s. 3d. There was, however, 2777*l.* 14s. 5d. to pay for debenture and other interest, and 1060*l.* 10s. 3d. for London expenses, whilst on the other side only 25*l.* 7s. 6d. was received for transfer fees, so that the actual loss was 3478*l.* 19s. 8d. as shown by the accounts. The company's total cash balance is 421*l.* 13s. 10d. The company's liabilities are—debentures, 36,500*l.*; other claims against company, 48,949*l.* 6s. 11d. The assets are—plant, furniture, stores, and sundry debtors, 4160*l.* 11s. 5d.; and the cash balances mentioned. The 3478*l.* 19s. 5d. includes the value of the stone-breaker, engines, and other machinery sent out to the mines, as well as an adjustment of the stores and plant accounts, which have been written down to the value shown by detailed inventories which the directors caused to be made at the mines on Dec. 31 last. It must, however, be apparent that a very small increase on the last year's output would have put the balance on the other side. The average produce of copper ore for the last five months of 1878 exceeded 1000 tons per month but, owing to delay in arrival of ships at Tucacas, the actual quantity dispatched for shipment between July 31 and Dec. 31 was 4350 tons, or 870 tons per month, averaging 14.90 per cent. of copper wet, or 13·40 per cent. dry assay. The various works both underground and at surface have been prosecuted with results which the directors regard as most encouraging. The level which was holed into, north of the Ruby Saloon, is now ascertained to be connected with a rise to surface, which has been cleaned out, and has established such good ventilation at the northern end of the mine as will greatly facilitate future operations at that point. Due attention has been paid to the opening up of additional ore-bearing ground. There is no reason to doubt that the company will be able to carry out its contract with the Bolivar Railway. The railway service continues to be efficiently conducted, and all the ships have been loaded with promptitude and dispatch. Tonnage continues to be procured on favourable terms, and expenses have been reduced in various ways. The closing of this company's establishment at Tucacas, which has effected a saving of some 1500*l.* a year, has not been attended with any inconvenience, and the supervision of the transit service is thereby in no way impaired.

St. John del Rey, 260 to 270; the latest telegram from the mines at Morro Velho, dated Rio de Janeiro, June 9, states that the produce for May was 37,500 oits., of the value of 14,531*l.*, the ley of the ore being 6·5 oits. per ton. At Cuiabá, 200 tons were stamped in 15 days, and yielded 2 oits per ton. Don Pedro North del Rey, ¾ to 1; there is nothing new with regard to these mines, but the full report of the first month's regular working of the repaired wheel is looked forward to with interest. Chontales, 1s. to 3s.: the April return was 261 ozs. of gold, value 689*l.*, the average ley of the ore being 4¾ dwts. per ton. This left no profit. Javali, ⅛ to ⅜; the usual monthly report states that 417 ozs. of gold, value 1050*l.*, were obtained in 19 days, with 20 stamps, from 1545 tons of ore and some tailings. The expenditure was 928*l.*, so that the working profit was 122*l.* The Easter holidays interfered with the results. Santa Barbara, 1⅞ to 2⅝; there is nothing new to report with regard to these mines.

Richmond, 7¾ to 8¼; the usual telegram from the mines at Eureka, Nevada, states that the week's run was $47,000, from 810 tons of ore. During the week the refinery produced $45,000 of doré bars. The manager, Mr. R. Rickard (May 26), writes that during the past week operations both mine and smelting have been carried on without interruption. The northern end of No. 12 chamber has very much improved. Sierra Buttes, 1⅞ to 2⅛; during May $31,404 of gold was obtained at a cost of $21,693. Ditto, Plumas Eureka, 2⅜ to 2⅝; during May $41,988 of gold was obtained at a cost of $22,608; there was also $3000 laid out on improvements. London and California, ⅛ to ⅜; the clean-up for May at the Original Amador is estimated at $5800.

The Old Telegraph (Mines de Bingham) of Utah and the Amador

Volcano continue to command attention on the French market, where their reputation, however, does not improve. Strong doubts are expressed whether the vendors of the Old Telegraph really secured and left France with the purchase money, but this is a question upon which it is difficult to pronounce an opinion. A San Franciscan correspondent, writing with regard to it in last week's Journal, remarks that the astonishment of mining people there when they learnt that the Old Telegraph Mine of Utah was to be placed on the French market at 15,000,000 frs.—as it is known to be, comparatively speaking, a worthless mine—was greatly increased when they learnt that the mine went off easily, and they can only pity the credulous ones who have sunk their millions without any prospect of a return. The Amador Volcano is described as "not such a huge wild cat, but fully as vicious and dangerous." The Crédit National of Paris publishes some curious details concerning the property. After declaring that the 600 frs. shares will never obtain a return of 1 fr., much less of $1, the writer goes on to state that "it appears that this marvellous property cost the house of Pioche, Bayerque, and Co., 2,500,000 frs. (100,000*l.*) in 1860, that the whole money was lost, and that the returns never met the outlay." At the death of Mr. Pioche the Amador Canal was sold to Charles McLaughlin (mentioned in the prospectus) for $25,000 (5000*l.*) The Grass Valley Ranch, of the value of 7200 frs., making the total cost of the company's property 132,000 frs. (5280*l.*), yet it was put on the Paris market at 6,000,000 frs. (240,000*l.*) It would be interesting to know whether these be indeed facts, and, if so, whether they were known to Mr. Turgan, Mr. H. de Parville, and the other directors, to Col. Berton, or to Messrs. Bouvier Frères at the time the shares were offered to the French public. This is a matter which those gentlemen more than any others will no doubt be desirous of clearing up. The more respectable Americans are naturally indignant that the reputation of American mines should be lowered in the eyes of European capitalists by such concerns being sold to them, and would, therefore, rejoice if it can be proved that the chief share of the proceeds of the sale, which they regret, has gone into the pockets of Frenchmen. The wit of the reference to Mr. Derbec, ingenieux, whose report was used, would be lost in translation.

In Hydraulic or Gold Washing shares the amount of business doing has been very limited. Birdseye Creek, ⅜ to ½; a telegram received during the week announces the result of the washing for May as—gross return, $11,750; profit, $7750. Blue Tent, 2¼ to 2½; everything is going on quite favourably, and water in abundance.

In Lead Mine shares a fair amount of business has been done, but in many cases it has been necessary to accept somewhat lower prices. Some attention has been directed to the French mine Sentein, concerning which a good deal has recently been written in this Journal. It is considered to be opening out admirably. Summer has set in in the Pyrenees, and the snow is rapidly clearing, and by the time it is melted the road will be in good order to Bentaillon. They raised 120 tons of good quality ore during the week, and the report states that they will greatly increase their returns of ore directly the road is open, and a communication made between Nos. 3 and 4 levels. At St. Eugenie they are expecting to hole every day. The stopes and ends continue to yield an abundance of mineral, and they see no change to report in any part of the mine. The little parcel of ore brought down last year is now being dressed, and it turns out well. All the machinery is in good working order. They have commenced to prepare the necessary work for the erection of No. 1 stonebreaker, and all their energies will be directed to effect this object as quickly as possible, as it will be the means of saving a vast amount of labour. The total amount of ore raised to date is 2825 tons.

Mineral Corporation, 10 to 11; but little has been done in the No. 3 adit at Hafna, as the men have been raising stone for the masons, who have completed the wall of the wheel pit, which is now ready to receive the frame. The crusher-house will be finished by Tuesday. They are storing all the water possible in the new reservoir, and the stonebreaker and tram rails have arrived, so that everything will soon be ready for active operations.

Frongoch, 1¾ to 2; the man engine is now at work at the mine, and is giving much satisfaction, as it effects a great saving in time in conveying the miners to and from their work, the bottom level being now more than 150 fms. from the surface. The mine continues to look well and yield plenty of lead. The recent rains have given an excellent supply of water, and all the machinery is consequently in full work. Grogwinion, 2⅛ to 3; 100 tons of lead will be sold to-day. The lodes are very productive at all important points, and prospects very good. Wye Valley, 1 to 1⅛; 40 tons of lead will be sold on the 19th inst. The mine is not looking quite so well as it was, but prospects are still good. West Wye Valley, 1¾ to 1¾; no fresh news this week. Caron, 2 to 2½; operations are going on well and the mine opening out satisfactorily. Red Rock, 2 to 2⅛; good accounts continue to be received from this mine. Mawston, 1½ to 2; Croswood, 1 to 1¼; Hartington, 1½ to 2; Saint Harmon, 1 to 2.

Pately Bridge, ⅛ to ⅜; the new machinery is working admirably, and the mine is looking well, the 30 end east on Rake Vein maintaining its value.

Subjoined are the closing quotations:—

Ashcton, ⅜ to ⅝; Devon Great Consols, ⅛ to 1 prem.; East Caradon, ⅛ to ¾; Gwennymynydd, 4 to 4¼; Glyn, ⅜ to ⅝; Great Laxey, 15 to 16; Hingston Down, ⅛ to ⅜; Leadhills, 1⅞ to 2⅛; Marke Valley, ⅛ to ⅜; Penstruthal, 1-16th to 3 16ths; Pateley Bridge (New), 7-16ths to ½; Roman Gravels, 8¼ to 8½; Tankerville, 3¼ to 3¾; Tincroft, 8 to 10; Van, 17 to 18; West Basset, 4 to 5; Wheal Crebor, 1¼ to 1½; Wheal Grenville, 3½ to 4⅛; Almada and Tirito, ¼ to ⅜; Birdseye, ⅜ to ½; Blue Tent, 2¼ to 2⅝; Canada Gold, 2 to 2⅞; Cape Copper, 27½ to 28½; Chontales, 1-16th to 3 16ths; Colorado United, 1⅜ to 1⅝; Don Pedro, ¾ to 1; Eberhardt and Aurora, 3 to 3½; Exchequer, ⅛ to ¼; Flagstaff, ⅛ to ¼; Frontino and Bolivia, 2 to 2¼; Hultafall, 2 to 2¼; Kapanga, ¼ to ⅜; New Quebrada, 2 to 2¼; New Tharsis, 10¾ to 11¼; Port Phillip, ⅜ to ⅝; Richmond Consolidated, 7⅞ to 8⅛; St. John del Rey, 260 to 270; Sierra Buttes, 1⅞ to 2⅛; United Mexican, 3 to 3⅛; Placerville, 2⅛ to 2¼.

DEVON CONSOLS, AND GREAT LAXEY—HOLIDAYS AND WAGES.—The question of wages and holidays has been so fully ventilated in the columns of the *Mining Journal*, and as it is understood that all differences in both concerns are being happily adjusted, it is felt that in the interest of the workpeople, as well as in that of the above two companies, further discussion of the subject is unnecessary. Moreover, as it has been continually pointed out that the directors and shareholders in these two extensive undertakings desire nothing more regarding hours of work than what is customary at all the large and leading mines of Cornwall, and this being very just and fair, it is to be hoped that in the future all will proceed in an amicable and proper spirit between employer and employed.

DEVON GREAT CONSOLS MINING COMPANY.—Mr. Peter Watson, Chairman of the company, left London yesterday for the mine, with the view of placing matters there on a more satisfactory footing, and of coming to some definite arrangement with the miners. It is to be hoped that, in the interests of all parties, the men will listen to the kindly advice which Mr. Watson always has given and is still prepared to give them. It is to be feared that they have been influenced, much to their own prejudice, by local advice which has not always been of a disinterested character, and the sooner they set themselves free from such influences, and listen to good commonsence, the better it will be for them. They must be well aware that, in the present depressed state of the metal market, a mine which could formerly pay high wages for comparatively short hours of work, can no longer afford to pay on the same liberal scale; and, as they have shared in the prosperity of good times, so they must show some forbearance in times of adversity. The directors of the Devon Consols have shown their desire to deal justly with the men, and they do not ask for a single hour's more work for the wages given than is usual in the large Cornish mines. There is reason to hope that the recent changes which have taken place in the administration of the mine will be attended with beneficial results.

PENSTRUTHAL.—The capital of this company being insufficient, it is proposed by Mr. H. Waddington to procure additional funds for continuing operations by an arrangement which is likely to meet the approval of all concerned. The south part, or old mine, yielded 140,000*l.* profit above the 120 fm. level. All recent operations have been confined to the northern, or new, part of the mine, which Mr. Waddington regards as an extremely valuable property. He proposes to sell the old mine for 30 0*l.* to a new company with 20,000*l.* capital, in 1*l.* shares. Of this 10,000*l.* is to be paid up in the next six months. Present shareholders are to be entitled to subscribe for two new shares for each five shares now held, so that the holder of 25 Penstruthal shares would by payment of 5*l.* (and accepting the liability for a possible payment of another 5*l.* subsequently) be owner of 25 Penstruthal and 10 South Penstruthal shares. Of the 10,000*l.* mentioned, 3000*l.* (the purchase money) would be applied as working capital for Penstruthal and 7000*l.* as working capital for South Penstruthal, so that both properties would be made valuable, and the shares in either could be dealt with separately—an enormous advantage as compared with the disastrous system of reconstruction, with the consequent loading of capital accounts, which has of late been too much practised. The circular issued in explanation of the project states that the old Penstruthal Mine, though so rich at a shallow depth, is yet comparatively untried. The enormous bed of mundic underlying or serving as a floor between the great bunches of copper has never been cut through or penetrated below, although every miner's opinion is that the bed of mundic is but a covering of a second mass of copper ore. The neighbouring mine, Tresavean, was worked below the 300, and gave an enormous profit below the 100, the present depth of Penstruthal. It is estimated that 10,000*l.* would pay the purchase money, erect a 60-in. or 70-in. cylinder engine, put down pumps, and see the objects of the company's operations, and result in a paying property—one that would recoup every shareholder's money.

WEST PATELEY (Lead).—The newly-discovered lode (56 north-west) fully maintains its value. 30 cwts. of lead ore per fathom. An improvement is reported in the 67 south-east. There is a large pile of lead-stuff broken underground, and ready for drawing as soon as the slides are cleared.

WHEAL CREBOR.—The improvements in this mine during the past week are important. According to the latest reports the bottom levels are entering a large body of ore. The lode in the 108 winze yields 12 tons of copper ore per fathom. The lode in the 108 end, east, is worth 20*l.* per fathom. The lode in the 120 end, which is some 7 fms. behind the perpendicular of the 108 winze, is worth 12*l.*, and gradually improving as it is extended eastward. The prospects of the new, or Crowndale, ground are certainly most encouraging, and the prediction of the old miners that it will be found a hill of copper are apparently being verified.

CROOK BURN MINING COMPANY (Limited).—The directors of this company met on Monday to examine the application for shares and allot the same. The letters of allotment will be issued in a few days. A pleasing incident in the applications was so many from working lead miners, who are acquainted with the veins in this company's sett, some for ten, five, four, and even a single share. The demand for shares exceeded the supply. Mining operations will be commenced immediately, as tenders are already received for sinking the shaft and other works.

LLANRWST DISTRICT.—The *ex parte* statements, writes one who is probably the greatest mining authority in Great Britain, which are inserted in the Journal relative to a lot of mines in the Llanrwst district are enough to frighten us old steady producers of lead ore. How is it that the *Mining Journal* report of the ore sales from the mines named do not amount to anything alarming? Do these companies sell by private contract? Would it not be well as some of the shares are quoted 50 to 75 per cent. premium, sometimes more, for those concerned to send particulars of lead and blende sales for insertion in the column which you usually devote to those matters? Would some one at the same time state—what is the analysis of the Morfa Du ore; and what is about the average price which the company receive for it?

ENGLISH-AUSTRALIAN GOLD MINE.—The advices received for some months past respecting this mine have been very satisfactory. In the eight months ending the middle of April the gold sales realised 1557*l.* against only 267*l.* in the previous eight months. The most of this gold has been got from the stopes and drift over the 320 feet level, but the great object has been to drive the 420 feet level to the gold-bearing quartz, which from its dip in the adjoining rich Ferron's Mine, will be much longer in the English-Australian Company's ground the deeper they go. At the beginning of this year it was resolved to raise further capital to prosecute the works more vigorously, by pushing on the 420 feet level, sinking the shaft, and erecting a winding-engine. In March a circular to the shareholders was issued, but owing to the bad times it has been very difficult to get a sufficient sum subscribed. It is satisfactory, however, to know that out of the 370 feet remaining to be driven in the 420 feet level in January last, 105 feet have since been completed. The shortness of funds has caused a temporary suspension of the main points in operation, but the directors hope these will now be very soon resumed by a remittance by telegram. The Ferron's Company has made large profits and dividends, and their drivages are up to the English-Australian Company's boundary. The shareholders of the latter company deserve to reap a substantial reward for their perseverance, which they are likely to do.

COPYRIGHT AND PATENTS FOR INVENTION.—The warmest congratulations may be offered to all interested in this class of property upon the fact that Mr. R. A. MACFIE, F.R.S.E., from being one of the most strenuous opponents of copyright and patentright has now become entirely converted, his present views being so liberal that neither author nor inventor can reasonably object to them. He may, it is true, differ from them as to whether the right possessed by authors and inventors should be regarded as a common law right, or merely as a right obtained as a privilege. Mr. Macfie's notions as to the nature of property are novel and unique but he does not insist too strongly upon them, and does not object to the officers of the Crown conceding "powers to prevent others from doing what in the nature of the case they wrong nobody if they do." It is demonstrated by Mr. Macfie's admirable table on the cost of an octavo volume that authors have only themselves to thank when they fail to realise handsome profits—either they print too small a number of copies, or they sell at too high a price. He evidently estimates upon his own volume, which fills 430 pages, and bases his calculations on 432 pages. He shows that by printing 64,000 copies he secures fine quality paper for 7·4d. per copy, whilst the type setting costs him 0·3d. (which is erroneously printed 3·3d.), the printing 2 5d., and the binding 7d. (this item is far above London prices) = 1s. 5 2d. per copy as the total cost of manufacture. He gives away (including incidents) 8*l.* worth of copies, pays 500*l.* for advertising, and takes 250*l.* for author's remuneration, which gives him 11s. 7½d. per page, an amount which well compensates him, as the book is professedly a compilation. This gives 1s. 8d. per copy. Mr. Macfie has arranged to allow the publisher 6·7d. per copy, and the publisher is to supply trade at 2s. 2·7d. The booksellers are to receive 40 per cent. profit, or 10·2d. per copy, and the public are to have the volumes at 2d. in 1s. discount, or 4s. 2d.; thus, in addition to the 250*l.*, Mr. Macfie secures the difference between 3s. 1·2d. and 4s. 2d. per copy, which on the 63,920 copies sold, represents upwards of 3000*l.*, so that it is evident, to use his own terms, he has well marginated—that is, left of the selling price a margin after charging cost of raw material or like elements of cost broader or narrower as the case is wherefrom to yield a rateable profit or sometimes expenses and profit together." Upon the question of copyright (to which the present volume alone refers, the consideration of patentright being reserved for the second) Mr. Macfie has furnished all the information likely to be desired, and his work cannot be read without the reader becoming convinced that although the existence of copyright and patentright are from certain points of view objectionable they are necessary evils.

TESTING IRON AND STEEL BY ELECTRO-MAGNETISM.—Two interesting practical applications of electro-magnetism have recently appeared. In one it is applied to discovering flaws in iron or steel; in the other to measuring the hardness of steel. The theory of the former process (proposed by Mr. Herring, an American mining engineer) is this: when an iron or steel bar is passed through a coil which is traversed by an electric current, the bar becomes a magnet. If the metal be homogeneous, the polarity of the bar may be inferred from known laws of electro-magnetism. If, however, there be a want of continuity of fibre at some point—*i.e.*, a flaw—new poles are formed there, which a properly mounted needle will readily detect, also giving a measure of the extent of the imperfection causing these false poles. The apparatus is so contrived, then, that the wire or rod to be tested is passed horizontally first through a magnetising helix, then through a hole in a block of wood, which supports a nicely balanced dipping needle as magnetometer. The apparatus is, of course, adapted to the size, weight, and shape of the piece to be examined. In testing plates the helix is flattened, and a number of magnetometers are mounted at short intervals on a bar, which can be moved to and fro in front of the helix and fixed at any desired distance from it. The new apparatus of Prof. Wattenhofen, of Prague, for measuring the hardness of steel electro-magnetically is a development into more practical form of a former idea of his. Its principle is that hardness of steel may be very correctly inferred from a numerical determination of its coercitive force. In its main features, his arrangement is as follows:—from one end of a balance arm are suspended successively, in a brass holder, bars of the steels to be examined (these being as nearly as possible equal in weight). The other arm bends obliquely downwards, and bears a constant weight. Motion of the beam causes a pointer to move radially over a scale, the movement being magnified by toothed wheels. One of the steel bars having been suspended, a magnetising coil, equal to it in length, is raised on a stand so as to enclose the bar, and fixed with a binding screw when it does. Then a current is sent through the coil; then the coil is released and moved gradually down, pulling the bar with it, till the latter breaks away, and the deflection of the pointer is noted at which this occurs. This affords an estimate of the hardness of the steel. For example, a bar, A, gives a maximum attraction, 9·6; a second bar, B, 15·5; a third, C, 14·6. It is inferred that A is considerably harder than B and C, and of the two latter C is harder than B. Precautions are taken in the apparatus to prevent injury to the parts from the sudden recoil when the hold of the coil on the bar ceases.

SUCCESSFUL LEAD MINING.—A very valuable discovery of lead ore has been made by the Burnhope Lead Mining Company, who commenced operations in October last to work a north and south vein running through the Harehope Hall Royalty, Edmondbyers. A shaft was set on some 50 fms. south from the Burnhope Stream (the northern boundary), and after sinking 15 fms. through a deposit of fine alluvial soil, they struck the high grit sill; and on the top of this sill large blocks of pure galena lead ore were found, weighing from 2 to 3 cwt. each, and some tons of this was got out at the bottom of the shaft, having been washed from the north and south vein, where the sills are thrown up to the west. A similar circumstance happened at the opening out of the celebrated Hadgill Burn Lead Mine. Having also seen indications at the surface of an east and west vein, near to where the shaft was sunk, a level was started at this depth in a northerly direction, and after driving 12 fms., a very fine and powerful east and west vein was cut at the outcrop of the high grit sill. Another cross-cut was then commenced from the shaft to prove the north and south vein, and after driving 4 fms. this vein was cut rich. The vein is a large and masterly one, well defined, and contains very fine pure galena lead ore, valued at 5 tons per fathom. The Hexham and Edmondbyers Mining Company, who hold the adjoining royalty to the north, have sunk a shaft 33 fms. deep, and from this shaft a level has been driven 30 fms. to their southern boundary (the Burnhope stream), and it is estimated that over 100 tons of lead ore have been got from this level alone, and in coming southward to the Burnhope Company's royalty the vein has increased in size and productiveness, every fathom of ground being opened out, and the vein is standing at present, at their southern boundary, 9 ft. wide and rich for ore. The Burnhope Company are preparing machinery and plant for raising and dressing the lead ore, and are commencing to work the north and south vein towards the intersection of the east and west vein, where it is certain, from the ground proved on both sides that a large deposit of ore will be found, and, as the whole of the royalty is virgin ground, there is every prospect of opening out a rich mining field.]

MINERS' ASSOCIATION.—There were 13 candidates from Penzance, Camborne, and Redruth for the prizes offered by the Society of Arts for proficiency in qualitative blow pipe analysis, at the examination held by Dr. Le Neve Foster at Redruth last week. The results, which have now been announced, are as follows:—1st prize, *M*, recommended for Mr. W. H. James, of Redruth, son of Capt. A. James, South Frances; 2nd, Mr. Johnson, Redruth; 3rd, Mr Provis, Camborne, 4th, Mr. Ormsby, Penzance; 5th, Mr. Thomas Rich, Redruth; 6th, Mr. A. K. Barnett, F.G.S., Penzance; 7th, Mr. Johns, Camborne. The first prize was last year won by a young man of Redruth—Mr. C. Berringer.

GENERAL MARKETS.—There has been very little doing this week, and markets are mostly dull. The principal business in the foreign market has been in Egyptian; the Unified and Preference have had a further rise of over 2 per cent. Russian, Mexican, and Hungarian, and others have been rather neglected. There has been a fair amount doing in Turks, which have been in demand. South American securities are rather dull. English railways, with the exception of Caledonian Stock, are all firmer, after being very dull all the week. The traffic returns were rather more satisfactory, and in one or two cases particularly so, such as the Midland and North-Eastern. The bad weather has been very unfavourable for the southern passenger lines. The English funds are dull, Consols, 97⅛ to 97¼, ex div. In mines the chief business has been in Crebor, which has advanced; Wheal Peevor are also better.—W. H. WATSON: 1, *St. Michael's alley, Cornhill, June* 13.

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Date.	Mines.	Tons.	Price per ton.	Purchasers.
June 9	Pandora	24	£ 8 2 6	Walker, Parker, and Co.
10	Foxdale	100	13 13 6	Adam Eyton.
12	Talargoch:—			
	Maesryewddu	80	9 10 6	Walker, Parker, and Co.
	Coetia Llys	30	9 11 6	Adam Eyton.
	—North Hendre	50	8 15 6	Walker, Parker, & Co.
	— ditto	50	8 15 6	ditto
	— ditto	10	10 10 0	Quirk, Barton, and Co.
	—Prince Patrick	50	8 18 6	Walker, Parker, and Co.
	—Rhydalun	25	8 12 6	ditto
	—Chivarellas	5	8 8 6	ditto
	—Wagstaff	12	8 2 6	Adam Eyton.

BLENDE.

Date.	Mines.	Tons.	Price per ton.	Purchasers.
June 9	Pandora	20	£ 6 19 6	Vivian and Sons.
11	Talargoch	120	3 4 6	J. F. Rimmel.
—	ditto	130	3 1 9	ditto

Notices to Correspondents.

*** Much inconvenience having arisen in consequence of several of the Numbers during the past year being out of print, we recommend that the Journal should be *filed* on receipt; it then forms an accumulating useful work of reference.

CAPT. KNAPP'S paper on the Science of Mining shall appear in next week's Journal.

Received,—"J. F."—"S N."—"J. E."—Ch. d'Ernst (Wien) will have seen the article to which he refers in last week's Journal—"A. G." (New York): We are obliged for your letter, and for the information it contains—"J. B. B." (Manchester)—"F. Y." (Pennfields): We felt greatly pleased when reading the speech, but we could not save room for its publication—"T. E. C."—"P. B."—(Dunfermline): We are quite of your opinion—"Solatium" (Miners' Holidays) "Shareholder" (Carn Brea)—"Old Miner" (Redruth).

THE MINING JOURNAL,

Railway and Commercial Gazette.

LONDON, JUNE 14, 1879.

THE THREATENED CLOSING OF COAL MINES.

In anticipation of the adjourned Conference of Miners' Delegates which is to take place in Birmingham shortly, for the purpose of discussing the propriety of closing all the collieries in the kingdom for a month or six weeks, in the expectation that such a course would lead to a considerable advance in the wages now paid to coal getters, meetings are now being held in different parts of the country. At some of the meetings recently held the insane project, for such it really is, has been denounced as not only impracticable, but impossible, by speakers endowed with a larger share of common sense than their fellow-agitators. At others, however, the men have taken a different view, believing that the working miners can do almost anything they please. This was the case a few days since at a large gathering of colliers at Unstone—a colliery village in North Derbyshire, and some six or seven miles from Sheffield. The projector of the scheme—Mr. PICKARD, of West Yorkshire—was present, and evidently had an appreciative audience, if an unthinking one. He stated that at seven mass meetings held in the West Yorkshire district resolutions have been passed in favour of the course he had proposed, which he believed, if adopted, would be successful in attaining the onject aimed at. Mr. CHAPPELL, one of the secretaries of the South Yorkshire and North Derbyshire Miners' Association, was also present at the gathering, but gave an opposite opinion, as he considered the proposal to set down all the coal pits was impracticable, as the men were not sufficiently organised to make it a success. The meeting, however, was with Mr. PICKARD, for a resolution was proposed and carried to the effect that the miners in the Unstone district should ask their employers for an advance of 10 per cent. on the present rate of payment, and in case of its not being granted they should set down the pits. This is certainly a bold conclusion to come to, but it is one that will not be carried out, although the masters will most decidedly not give the advance, seeing that most of them are now losing money by carrying on work. But we do not hear of any mine taking the initiative in accordance with the bellicose resolution, which was a mere *brutum fulmen*, the result of the heated imagination of two or three of the speakers acting upon the minds of an ignorant audience. In South Yorkshire meetings on the subject have also been held, but there the delusion was too transparent to the miners, amongst the rank and file of which there are many practical and intelligent men, and the proposal to set down the collieries was quietly ignored as being simply impossible. At those meetings where the men have been in favour of the scheme propounded by Mr. PICKARD there is one point—a vital one—which has never been touched upon by the speakers, although upon it everything else in regard to the closing of the collieries depends—that is, how are the miners and their families to be supported, supposing that all the mines were to be closed for even three or four weeks. The men have nothing of their own to fall back upon, whilst the funds in the hands of the existing associations would not be sufficient to provide for the wants of all the persons that would be affected for a single day. Nor could the men go out begging, as they have hitherto done, from persons connected with other trades, for in all probability most of them would be idle in consequence of the stoppage of fuel for manufacturing as well as other purposes.

Miners are certainly, when taken altogether, not the most intelligent body of operatives we have, and it is only those who are very low down indeed in the intellectual scale that could for a moment suppose such a scheme as the closing of all the collieries in the kingdom, and rendering more than half a million of men idle at one time, was within actual possibility. Surely the extreme of folly or imbecility has been reached by those who consider that such a monstrous proposal was capable of being carried out, or even partially so, to an extent that would lead to a material and permanent advance of wages. But it is gratifying to find that the great majority of the miners of the country, and the most intelligent of their leaders, look upon the scheme of closing all our collieries at one time as almost too ridiculous for serious consideration, so that at the first conference many of the largest and most influential districts were not represented, and at the adjourned one we may be sure that the same will be the case. Colliery owners, we may say, have not taken much notice of the proposal, for most of them have been engaged in bringing down the wages of miners to a point that will not cause them an actual loss in the working of their mines, being content to go on without making profit, so that the opposition to the closing movement has come from the men, who the promoters say are to be greatly benefited by it, and from some of their farseeing and thoughtful leaders. Amongst the latter our old opponent, Mr. THOMAS HALLIDAY, we are glad to find has shown his usual discrimination, sound practical sense, and knowledge of what relates to mining, by scouting the idea of closing all our collieries as too absurd, impracticable, and, in fact, impossible, and consequently not worth consideration. Speaking a few days since at a large gathering of miners at Mountain Ash in South Wales, he ridiculed the action that had been taken in the West Yorkshire and other districts by some who thought that the stoppage of all the pits in the country for a month or six weeks would answer a very good end, but who had not taken into consideration the disorganized state of the mining body. Mr. HALLIDAY also pointed out that in most of the great mining districts of the country Unionism was at a discount, so that there could be no unity of action on the part of the men, so that the leaders of the miners, more especially those who were in favour of the new movement, only represented a very small minority of the mining body of the country. The information given on this point by such a trustworthy authority as Mr. HALLIDAY is really valuable, and shows that the miners' leaders have been credited with a much larger following than they actually had, and are far from being the formidable commanders of legions we thought they were. Scotland, having such a leader as the hon. member for Stafford, whose burning eloquence is so well known in all mining districts as well as in the House of Commons, one would have thought was about the greatest stronghold of unionism that we have; but this is far from being the case, for we are told that whilst in that part of her Majesty's dominions there are 40,000 miners, yet not 4000 of them are unionists. Northumberland has also been considered, as far as the miners are concerned, decidedly unionistic, but it is calculated that whilst there are in that country 11,000 men belonging to the Association, there are also 9000 not connected with it.

But many other districts are much worse off. In Lancashire, out of 50,000 miners, we are told that only 5000 are in the Union. In Yorkshire and Derbyshire a vast number of the colliers do not belong to the Association, there having been a marked falling off during the last three or four years, and this has been the case in South Wales. Taking the northern part of the Principality, we are informed that there is no organisation whatever, whilst in North Staffordshire there were only about 1000 men in the Union out of some 12,000 engaged in the mines. In Cumberland the unionists were not very strong, and in the Forest of Dean, as well as in the Bristol district, there is no Union in connection with the coal mines. Durham is undoubtedly the strongest county as relates to unionism that there is, yet the men there recently accepted a 8½ per cent. reduction, and have agreed to leave the question of a still further reduction to be decided by arbitration, but the association refused to recognise the chimerical scheme of Mr. PICKARD, and did not send a delegate to the Conference. From the facts we have given it will be seen that there is no cohesion whatever amongst the miners in all parts of the country, the vast majority being non-unionists. Yet with a full knowledge of these facts, a few men, with a very lean following, propose to stop the entire trade of the country. Anything more contemptible cannot be well conceived, and forces to one's mind the hacknied phrase of the three "Tooley-street tailors," who presumed to speak as "We, the working men of England." How powerless these men, who propose to set all the collieries in the kingdom idle, are to accomplish what they say would be to the benefit of the class they belong to is too plain to call for further comment. We are only sorry for their dupes, and those who pay persons to represent them at a conference the result of which can only be to show the folly of a few men from whom better things might have been expected, seeing that they have by some means obtained the position of leaders of a small section of a class to whom the schoolmaster has been a stranger. The Birmingham Conference can, then, only end in failure, and the movement will bring anything but credit to its promoters, who should in their addresses made those who listened to them acquainted with the fact that they had only a small following, and that the project had been discountenanced by the principal mining associations in the country. If this had been fairly done there would have been no second Conference at least, and considerable expense would have been saved those who complain that their wages are not sufficient to maintain their families, but who have to pay for the journeys of their secretaries when engaged running after every will-o'-the-wisp that may excite the imaginations of some crazy and ignorant spouters, who, as a rule, do their clients far more harm than good.

TECHNICAL EDUCATION IN ENGINEERING, MINING, &c.

The probability that before long a charter will be granted for the establishment of a northern university which will include in its pale the Owen's College, Manchester, and the College of Science at Leeds, leads to the expectation that we are now in a fair way of realising some of the benefits that were expected to result from the Exhibition of 1851 and those that have followed it. We have, it is said, made great progress in mechanical mining and general scientific knowledge since 1851, but it is admitted that on the Continent much greater progress was made by the establishment of technical schools and colleges, which, until a comparatively recent period, have been all but unknown in this country. The School of Mines in Jermyn-street no doubt has been productive of some good, but certainly not to the extent that could be desired, whilst there would be found greater advantages were such an institution established in a mining district. Then we are not aware that, perhaps with one exception, there is any educational establishment in England where instruction is given with respect to mechanics and engineering. But the necessity for such is now admitted on all sides, seeing that in some of our most important industries, more particularly those connected with iron and steel, continental and American manufacturers, not only in finish but in severity of detail as well, are able to compete with us, and in some instances even to excel us. To a great extent this is the result of a want of practical and educational training, and the developing of scientific knowledge by means of study and instruction. Some two or three years since the Government presented to the Royal Society the sum of 4000*l.* for the promotion of scientific investigation, but we are not aware that it has brought any important discoveries to light or added materially to our scientific knowledge as regards mining and engineering—important branches in which there is plenty of room for increased knowledge. But such knowledge can only be obtained by schools or colleges in which such branches become a leading portion of the curriculum. In such establishments we are far behind our neighbours on the Continent.

In France, Belgium, Holland, and Germany there are excellent schools for technical education, whilst even in so small a country as Switzerland there is one of the finest engineering and technical schools to be found anywhere. In the latter establishment the advanced students are lodged, boarded, and taught at the public expense. Even in Japan we find an Imperial college has been founded, in which the education taught is suitable for metallurgists, chemists, mechanical and telegraph engineers, civil engineers, &c. But so far our Government has done nothing for us in the shape of scientific instruction so that we should maintain the position we have so long held as the chief seat of the iron and steel manufacture, and the country from which all important inventions relating to those industries have emanated. But with the spirit of competition which now rules, and the exodus of so many of our skilled artisans, the time appears to have arrived when the State should be called upon to inquire into the value of our existing scientific schools, and see what improvement could be made for the development of our great national resources. Much could be done for the promotion of technical education by the establishment of scholarships in connection with Owen's College and the Leeds College, for it is almost too much to expect that the amount given by private individuals is sufficient to meet the requirements of large, and what may be termed national, institutions. The City guilds, too, could not do better than give of their wealth to promote the trade of the country by aiding the cause of scientific and technical education. This has been done by one of the great metropolitan bodies—the Clothworkers Company—who have just voted 3500*l.*, in addition to 10,000*l.* previously given for the cost of the site, building, furnishing, and fitting with all necessary appliances the textile industries and dyeing instruction department of the Yorkshire College of Science at Leeds, and they have further agreed to maintain the building and its operations in full effect without extraneous or adventitious aid for five years from January next at a cost of 1200*l.* per annum. It has been arranged to obtain the services of a German instructor in dyeing who combines a complete theoretical knowledge of chemistry with a thoroughly practical knowledge of dyeing operations. Did we require on the spot an illustration of the necessity for scientific schools we have it here in the fact that we have to go to Germany for a first-class practical professor of dyeing, and the branches relating to it. But Germany is a great exporter of dyes, and excels in the preparation (always most carefully kept secret) of the carmines of cochineal, which are produced at Stuttgardt, Leipsic, and Mullhouse, as well as of very beautiful colouring lakes and ultramarine, the most extensively used of blue colours with indigo.

The liberality on the part of the Clothworkers Company should be an example to others desirous of promoting the interests of all classes and the general prosperity of the country. Scarcely in connection with any branch of trade could this be more effectually done than in promoting the education of those who propose to attach themselves to engineering or mechanical pursuits. Here there is a vast field, and the workers few in obtaining a scientific knowledge of those important branches, in which more than any other we are meeting with the greatest and most determined competition on the part of continental manufacturers. So far we have not heard of any endowment being made for instruction in the branches to which we have alluded. This would certainly be a favourable opportunity for the Ironmongers Company following in the wake of the Clothworkers by aiding the college in Leeds in promoting technical education with respect to engineering and the mechanical productions for which the town has such a high reputation. The founding of a few scholarships could not fail to be of the greatest good in the future. With respect to mining, a considerable sum has been subscribed by the colliery owners in the West Riding, so that at Leeds there are Professors of Geology and Mining, through whom both a scientific and practical education can be ensured by persons intended for taking the management of collieries. But endowments to be really advantageous should be permanent, whilst the charges made for students should be moderate, so as to allow of tradesmen and colliery managers being able to send their sons to the college. As in other countries, we certainly think the Government should do something for the promotion of scientific education, and as there is to be a Northern University, we have thought the time particularly opportune for calling attention to what has already been done at the college in Leeds, and to what may yet be accomplished. The Government and some of the City guilds, we think more especially the former, should take the scientific education question into earnest consideration in the interests of the country at large, for the matter is one of national importance.

AFFAIRS IN THE UNITED STATES.

The railroad interest of the United States has exhibited of late more vitality than it has displayed any time these six years past. The re-funding of the National Debt of the United States at a lower rate of interest—an operation conducted recently with great and remarkable success—and the resumption of specie payments have produced the happiest results in American business. The rate of interest in the United States has been lowered for a time in consequence of the re-funding of the National Debt upon easier conditions, and this has brought with it the usual tendency to speculative enterprise. No better proof can be afforded of the change which has come over the railroad interest of the United States than the resumption of constructive operations by the Northern Pacific Company. Although that undertaking was promoted under good and substantial auspices, it collapsed utterly in September, 1873, and dragged down to ruin its chief supporter, Mr. JAY COOKE. Five years came and went, but still there was no recovery in the Northern Pacific. But 1879 has witnessed a marked and rapid improvement in the rates current for the company's stock and bonds, which have regained tangible quotations, although they are still at a heavy discount. Moreover, the company has succeeded in raising some additional capital at the relatively moderate interest of 6 per cent. per annum, and it has been enabled to resume constructive operations to the extent of 200 miles. It is clear that cheap capital has given a considerable stimulus not only to the Northern Pacific but also to the whole railroad interest of the Great Republic.

If the Northern Pacific can manage to raise capital at 6 per cent. per annum we may take it for granted that companies like the Pennsylvania, the Illinois Central, the Chicago and North-Western, the Baltimore and Ohio, and the New York Central will be able to dispose without difficulty of stocks or bonds having the still more moderate interest of 4½ per cent. per annum or 5 per cent. per annum attached to them. This being the case, it is not too much to assume that these well-established and powerful companies will be encouraged to proceed with extensions and improvements which under less encouraging conditions they would not so readily undertake. Great quantities of steel rails have been laid down by the more prosperous American railroad companies upon their main lines, but still they have numerous branches which have to make shift with iron rails. The stability of these branches will now, probably, be increased, and a good demand for steel rails may be expected to continue in the United States for some time to come.

With reference to the extended use of steel rails upon American railroads, we have three observations to make. The first is, that we fear the Americans will obtain at home most of the railway *matériel* which they may require, and will not come to us for it. Mr. W. H. VANDERBILT, the president of the New York Central Railroad, had recently the courage to order 15,000 tons of steel rails in England; and he has been most roundly abused for doing so, more especially because he justified his English purchase on the ground that English rails were generally of better quality than American rails. We do not think many American railroad presidents will have the courage to follow Mr. VANDERBILT'S example. The second observation which we shall venture to offer is, that steel rails will greatly increase the stability and security of American railroads which have hitherto been maintained with difficulty, in consequence of the fickleness and severity of the American climate. Our third observation is, that American railroad companies appear after all disposed to throw away the financial benefits which they are deriving from steel rails, since one effect of such rails is to encourage the reckless railroad administrations of America to compete still more furiously with each other.

SILVER MINING IN NEW SOUTH WALES.—An interesting communication from our esteemed correspondent in Sydney—Mr. R. D. Adams—will be found in another column concerning the Boorook Silver Mines in New South Wales. It appears that at these mines mixed gold and silver ores are found, with the treatment of which the Australians have had no experience. Mr. Hardman has found a reef, which he has named Lizzie Lee, in the neighbourhood of the Grand Junction, stones from which look well for silver; and Mr. R. Johnston has discovered a gold reef, Murray's Reef, at right angles with the John Moffat. In the Prospect claim they have now eight men engaged raising a great quantity of rich ore. Mr. Horton has his second Wheeler pan in full swing, and two others had arrived and were to be at once set to work. Mr. Adams states that Mr. Horton has fought far towards success against every disadvantage; although his treatment is the best at command it is not that which will give best results. There is evidently, Mr. Adams thinks, a large scope in this new field for the use of science and capital combined. The representative of Mr. Thomas Horton in England desires it to be stated that the intention to form a large company in this country for working the property has been abandoned for the time being. For the present Mr. Horton will carry on the works himself. One of the most eminent metallurgists is stated to have gone out to assist in the development of the mines, and to determine their probable value. The result of the examination and his conclusions as to the mine will be from time to time published in the Journal.

STATISTICS OF THE AMERICAN IRON TRADE.—We have been favoured by Mr. JAMES M. SWANK, the secretary of the American Iron and Steel Association, with his usual annual report prepared for presentation to the members. In nearly all the branches of the domestic iron and steel industries there has been an increased production in 1878 as compared with 1877, but this has been accompanied by a decrease in prices. At no time during the existence of the Republic have prices for iron and steel been so low as in 1878. The report is admirably prepared, and of great utility.

MINERALOGY OF SARDINIA.—At the Society of Engineers on Monday (Mr. R. P. Spice, President, in the chair) a paper was read by Mr. C. J. Alford on the Mineralogy of the Island of Sardinia. After briefly describing the principal physical and geological features of the island, which he illustrated by means of a geological map and sections, the author adverted to the laws in force relating to mining operations, and pointed out the advantages and disadvantages of the system of permissions of exploration, and its effects upon the mining industry of the island, suggesting several desirable alterations. He then proceeded to describe the several mining districts, or groups of mines, particularly alluding to the well-known mines of Monteponi, Gonessa, Montevecchio, and San Leone. After thus briefly bringing under notice the better known features of his subject, the author proceeded to give his own experiences in prospecting for minerals in the more remote and unexplored parts of the island, describing the occurrence of the ores of copper, lead, silver, antimony, zinc, and iron in the mountain districts of Tempio, Lanusei, and Murravera, and some peculiar deposits of argentiferous galena in the neighbourhood of Tortoli and the granitic region of the Gennargento. In conclusion, he minutely described the coal or lignite deposits in the valley of Gonnesa, and in the high regions of Seni, with the explorations which had been carried out in them by himself and others, giving statistics as to the relative value of Sardinian tertiary coal compared with true coal as a gas producer, and as a furnace and steam coal. As an appendix to the paper, Mr. Alford submitted a translation of the existing Italian mining code.—At the same meeting the following gentlemen were duly elected as Members: Mr. Thomas Roberts, Corve-street, Ludlow; Mr. Thomas Henry

Hovenden, Bishopsgate-street Without, London; and Mr. Arthur Comber, Kidderminster; as Associates, Mr. George Lowthian, Penrith, Cumberland; Mr. Edwin Alldridge, Edgbaston, near Birmingham.

MINERALS IN SALVADOR.—The Republic of Salvador possesses large deposits of valuable minerals, many of which are believed to be of remarkable richness and extent, particularly those in the neighbourhood of Tobanco and Lomalarya, and others at the opposite extremity of the country. In the Cabanos region silver deposits are met with close to the surface of the ground. As yet these sources of wealth have been almost entirely unworked, and, with a view to their systematic development, Dr. Xaldivar, the President of the Republic, has engaged the services of a skilled mineralogist from the United States, who is to examine and report on the mineral deposits in the country.

AN ELECTRICAL ROCK-DRILL.—The electric current of high tension, which Mr. Planté has been studying for some years past, gives many curious and suggestive effects. They are obtained from his secondary batteries, which are charged from an ordinary galvanic battery, and each cell of which consists essentially of two sheets of lead rolled up together, with an insulating substance between them, and immersed in a dilute solution of sulphuric acid. One of the effects just referred to is that of electric engraving on glass; when one of the electrodes conveying the current of the secondary battery is brought into contact with glass, in presence of a saline solution, it acts like a graver or diamond, making grooves and hollows on the surface of the glass, often to a considerable depth. Rock crystal may be attacked by the same method, notwithstanding its hardness. When it is not regularly engraved, it at least cracks into small fragments under the influence of the electrode, and is at length disaggregated. Such effects have led Mr. Planté to the idea of utilising this force in boring operations. In America and elsewhere, it is known, hard rocks are often attacked by means of diamonds, the price of which is, of course, high, and which are gradually lost by being detached, through the violence of the action, from the pieces to which they have been fixed. "Might not these diamonds be replaced," Mr. Planté asks, "by the action of the electric currents referred to, and the rocks be bored by electricity?" He points out that electrodes of platinum would not be necessary; for it is not the metal of the electrode that is altered, but the silicious matter, in presence of the saline solution. Metallic points or projections suitably placed at the extremity of the drill rod, insulated in a portion of its length, and animated by a rotatory movement, would bring the electric current to the surface of the rock to be pulverised, and would thus replace the numerous diamonds set in the heads of drills employed in the present system of rock-boring. The progress recently accomplished in production of electricity by mechanical methods might facilitate this application.

PROHIBITION OF BLASTING IN COAL MINES—ITS EFFECTS UPON THE COST OF PRODUCTION.

This was the subject of a paper by Mr. W. Y. CRAIG, the president of the North Staffordshire Mining Institute, which was presented to a meeting of the members held at Stoke-upon-Trent last week. In the course of the paper, which we have abridged, Mr. CRAIG said—When I last drew the attention of the Institute to the question of the blasting of coal I examined more particularly the phase of safety than that of economy in working. Defective ventilation or sudden outbursts of gas might, either in connection with the flame of a bad or misused safety-lamp, or with that of a shot, produce an explosion, but it was shown that brisk ventilation was to a considerable extent secured by well regulated blasting, and that it was questionable whether the prohibition of the latter would not enhance the risk of explosions by removing certain safeguards against the general neglect of air-roads, while the danger inseparable from the use of the lamp remained undiminished. I also referred to the fact that the number of lives lost by falls of roof and sides was five times that occasioned by explosions, and as the disuse of powder would necessitate the bringing down of the coal by manual force there would in the thick seams probably be an increased loss of life from falls. I may further observe that when the question was so painfully impressed upon public attention in 1876 by certain accidents in our district my instincts prompted me to declare against blasting, and I entered on an examination of the question with a strong prejudice against the use of powder in coal mining. It appeared to me that a mere saving of cost did not justify blasting if it occasioned loss of life which would not otherwise occur. It is, however, a complex question, and too important to be disposed of by instinctive promptings, however charitable, which have not been tested by rational investigation. My object at present is to submit some particulars relating to the cost of working coal without blasting. Having for the last two years been professionally engaged at collieries where powder is not used, and having for many years managed collieries where blasting is practised, I have had ample opportunities of ascertaining the difference between the cost of the one as compared with that of the other at different collieries, but I had not until lately ascertained the difference of cost between working any one seam with and without powder at the same colliery. At the Podmore Hall Colliery, in the Bullhurst seam, I selected from a district of 60 acres two working places of more than average thickness—one being a 3-yard heading, the other a 12-yard pillar or drift. The mine dips about 1 vertical to 4 horizontal, and the seam, which consists of three bands, is about 8 ft. in thickness. In this seam (as in most of the thick seams of North Staffordshire) there can be no stated depth fixed for holing, because the cleavage lines run irregularly. These partings divide the seam into cubical masses, which in working with powder are holed sufficient to release the coal up to the parting. The shot is put in to bring down the coal when the men are, of course, at a distance. In working without powder the coal must be holed under a certain distance, and, to prevent sudden slips, careful double spragging is required. If on the removal of the sprags the coal does not fall, manual force must be applied, and hence the danger to the colliers from side falls is considerable. I arranged for the best set of colliers at command to be employed to work these places at day wages for one month without powder and one month with powder, taking every care to ensure honest and fair working. I visited the places myself, and have satisfied myself that the results are reliable. In the 3 yard heading worked one month without blasting the wages paid amounted to 19*l.* 17*s.* 6*d.*; yards driven, 29½; coal produced, 151 tons 2½ cwts.; cost per ton, 2*s.* 7·59*d.* The same, worked with powder—wages paid (including 10*s.* 4*d.* for powder and fuses) 20*l.* 1*s.* 7*d.*; yards driven, 36½; coal produced, 209 tons 15¾ cwts.; cost per ton, 1*s.* 10·95*d.* Twelve-yard drift, one month, without powder—cost, 16*l.* 0*s.* 10*d.*; quantity sent out, 233 tons 11¾ cwts.; cost per ton, 1*s.* 4·45*d.* The same, worked with powder—cost (including 8*s.* 1*d.* for powder and fuses), 17*l.* 9*s.* 3*d.*; coal produced, 327 tons 16 cwts.; cost per ton, 1*s.* 0·77*d.* The average difference of cost amounts to 4·92*d.* per ton. We have next to deduce the increase of cost per ton of labour and material between the face of the working and the screened coal put into wagons at the bank. We must keep in view the fact that when the pit is at work all the labour employed in the transit of coal from the working face to the bank, together with all other day-wage work, timber, horses, and maintenance of the road, are all fixed charges, and any diminution of quantity increases the cost per ton of these charges.

To determine the increase of cost throughout we must, therefore, ascertain, first, the difference in quantity; and, secondly, the cost per ton of the fixed charges when powder is used. In the heading worked without powder we have a produce of 6·86 tons per shift, and worked with powder 9·13 tons—the difference being 2·27 tons per shift. In the 12-yard drift, when worked without powder, we have a produce of 10·64 tons, and when worked with powder 14·26 tons—the difference being 3·62 tons per shift. Thus in the heading the quantity is 24¾ per cent. less, and in the drift 25·38 per cent. less when worked without blasting. Practically the average reduction of quantity from each working face in this seam if blasting be prohibited would be 25 per cent., or one-fourth of that produced when powder is used. The items of cost which would of necessity be increased by the diminished quantity were enumerated by Mr. CRAIG, who went on to say—There are several items, such as yard work, stone work, rent, &c., which would not be affected, but we have in the two amounts an increase of 1*s.* 2½*d.* per ton. The above fairly represents what the differences in cost in North Stafford-hire would be if powder were prohibited in coal working. In some seams it would be more and in some less, according to the thickness, the angle of inclination at which the seam lies, and the nature of the parting between the coal and the roof and floors. The results of this trial verify the judgment I had previously arrived at with reference to the value of powder in coal working. My desire was to divest the conclusion of all doubt by a proof conducted in accordance with the most rigid method of enquiry—to present two cases similar in all the circumstances except the one in question, the value of which single circumstance must necessarily be equal to the difference between the two results. The fixed charges enumerated as being affected by the lessened quantity are also facts derived from an aggregate account of the actual working for five months. The question arises—What is the advantage to be gained by the prohibition of blasting? I see none either in the direction of greater safety or a larger produce of the round coal. I am quite satisfied that the produce of round coal would not be improved by the disuse of powder, and I am also impressed with the conviction that loss of life would not be diminished by casting aside a force which lessens the cost of production one-fourth of what it would otherwise be. Let the workings and the ventilation of collieries be arranged upon the best principle of which the circumstances admit, and if the management, including shot-firing, be under the control of a well organised staff, at the head of which there is a skilled, careful, and attentive mind, the question as to when and where powder should be disused may safely be left to the decision of the owners. There are, undoubtedly, some cases where powder is inadmissible, but it would be absurd to adduce those few cases as an adequate plea for its general abandonment.

REPORT FROM CORNWALL.

June 12.—Another week has elapsed without supplying any material for comment on the general condition of mining affairs, and unfortunately without bringing us any nearer to that desirable consummation which it was hoped the middle of the year would bring with it, and which only a couple of months ago appeared so likely. Still, it cannot be said there is any fresh cause for discouragement; on the contrary, whatever little movement there is points in the right direction, and it is very cheering to hear that down in St. Just even, where mining has been under such a thick cloud, not only is there no lack of employment for miners at present, but good first and second-class men are absolutely wanted, while Mr. Boyns is about to make a fresh start—St. Just United, it would seem—which will require about a couple of hundred. Wages are low, that is certain, but we are quite convinced that the number of men out of work is far less than many people have imagined, and that instead of the thousands talked of recently it is a matter of hundreds only. Of course this entails suffering and want upon a much larger number, and there is a great falling off in the employment afforded on the dressing-floors and the like; but of actual and competent miners out of work there are much fewer than has been commonly imagined. The fact is that the depression has not come upon us suddenly but gradually, and that there has been a good deal of time and opportunity until recently to allow the men to clear out. The later restrictions of mining have been comparatively limited, and there is now an indication of the tide setting in the other direction—at least in West Cornwall.

Just at this moment it would really appear that the prospects of copper mining are even worse than those of tin, and as to those of lead they almost defy prediction. So far as copper mining is concerned, it is quite certain from the wide character of the producing area that we have only to hope for a general improvement in the condition of trade, of which the latest Board of Trade Returns and the most recent advices from America show some indications. With regard to tin the case is different. There restriction of supply comes into operation, as well as increase of demand; and the very character of the efforts recently made to puff up the Australian and Tasmanian "diggings" shows unmistakably that that little game is pretty well played out.

Talking of depression, it would hardly seem as if Cornwall had had much to complain of, seeing the way in which holidays have been kept up of late, and the excellent character of the annual exhibition of the Royal Cornwall Agricultural Society, which has been held this week at Falmouth. There is plenty of spirit left in the old county, that is certain, and there must be some little "tin" above ground as well as below, or people could not continue to do as they do. And yet that there is distress, and severe distress too, is unmistakeable.

Apropos of Mr. Wellington and his half-century odd with Messrs. Bolitho, it seems that Mr. J. Donnithorne, of Chyandour, has been with that firm nearly three-quarters of a century—73 years; and Mr. R. James, of Penzance, 63. Very few firms, or businesses either, could beat this.

Few mines appear to have better prospects than Carn Brea, which has been conducted without any diminution of vigour or energy all through our evil times, with a full staff of hands, and which, as the statements at the meeting prove, is on the high road to reap the advantage. After all, timidity is the last thing to be observed in the conduct of mining enterprise. A good many people have mistaken timidity for prudence, and burnt their fingers. Capt. Teague is one of those who believe that if a thing is worth doing it is worth doing well, and goes directly at what he has in hand. Carn Brea has illustrated the value of machine boring, but as yet we are only in the infancy of seeing what that is likely to do for mining in the way of rapid development and economical working.

REPORT FROM NORTH WALES, SALOP, AND CARDIGAN.

June 12.—The extensive works which were originally erected for the Potteries, Shrewsbury, and North Wales Railway at Shrewsbury, but which have been empty for some years, are showing signs of life. They have been taken by the Midland Railway Carriage Company. Already the sidings are filled with wagons. The windows and roofs of the buildings have been repaired; timber and materials are stored on the ground; and altogether there appear the beginnings of what we hope will be a permanent and successful works.

Mr. Knapp dealt very severely with me when I ventured to ask a question once before, and I do not know whether I ought again to venture to refer to him. However, I will take the risk, and say that it always interests me to read his communications. His command of language is so great, his choice of words so Johnsonian, and his capacity to construct sentences of ample size so unique, that apart from their mining value his letters have a considerable literary interest. He has chosen a subject of great importance, and I await with anxiety his reply to his primal question—"What are the fundamental principles of mining in the abstract?" Will he also give a few illustrations of the application of the advice contained in the third, fourth, and fifth lines of the second paragraph beginning—'that is to say," &c. Some of my mining friends question its soundness. There is also a question which some one will perhaps answer. Why do Messrs. J. Y. Watson refer so frequently to Pant-y-Mwyn Mine? It would be interesting to see placed in columns side by side the respective merits and demerits of Pant-y-Mwyn and D'Eresby Mountain Mines. I hope that it will not be necessary to do much more "writing up" in the case of the Coed Mawr Pool Mines. People are beginning to see through this method, and beyond a certain point the writing is thrown away.

Several of the Shropshire lead mines are doing well in themselves, but they, of course, suffer from the low price of lead, and one of the principal of them is storing its lead. It is said to have over a thousand tons in stock now. It is to be regretted that the railway from Pontesbury to Snailbeach is not continued up to the Roman Gravels Mine and the group of mines near to it. Is there not enough of money and public spirit amongst the mines and miners to do this?

The case of Mr. Savin's traction engines has been argued before Capt. Douglas Galton, the referee appointed by the parties. It was argued for the engines that the road had not been properly made, and that if it had the passing of the engines over it would not hurt it more than the same weight of merchandise carried in carts and wagons. It was also contended that this increased traffic is ordinary traffic, and that the roads of a district should be constantly adapted to its growing productiveness and trade, all of which seems reasonable, but the award has not yet been given.

At the New Crickheath Lead Mine the Ingersoll drill, which has been at work some time, has been replaced for awhile by the Eclipse, which is doing good work. Some of the slate quarries in the Llangollen district are idle, and others are only working three days a week. The limestone quarry owners also complain of a lack of orders.

REPORT FROM NORTH AND SOUTH STAFFORDSHIRE.

June 12.—The orders for house coal, which during the past week or two have been unequally distributed, are this week resuming their more regular channels, in consequence of the great Sandwell Park Colliery being again in operation. The men at these workings have most of them gone in upon the terms offered by the company. Prices of coal are not quotably changed upon the week, but vendors have an advantage which a week or two ago they did not possess by reason of the scarcity of coal which would arise if the collieries in the Tipton district should be overcome by the rising of the underground water. At present, however, buyers are not at all anxious to increase their stocks of fuel. The demand for pigs is quiet. The quotations for all-mine hot-blast pig-iron are unaltered—3*l.* 5*s.* per ton, and for cold-blast 4*l.* 5*s.* per ton; and part-mine pigs 2*l.* 10*s.* and 2*l.* 12*s.* 6*d.* per ton. The finished iron trade manifests a little more activity as regards the plate trade in one or two quarters, and some sheet-makers have rather more to do. But, upon the whole, the improvement in the state of things previously existing cannot be reported as at all marked. Half-time is the average at the works throughout the district, and orders are of a retail sort. Prices are based upon the 7*l.* 10*s.* official rate for marked bars. Sheets (singles) are plentiful, at from 7*l.* 5*s.* to 7*l.* A general price for good boiler-plates is 9*l.* Common unmarked bars may be quoted at from 6*l.* to 5*l.* 17*s.* 6*d.*

The important meeting in connection with the Drainage of the Mines of South Staffordshire, which had been looked forward to anxiously for a week by all the members of the coal trade, came off in Wolverhampton on Wednesday. It will be recollected that the meeting was called to permit of a free interchange of views between the coalowners outside the Mines Drainage Commission and the Commissioners, with a view to raising the 40,000*l.* required to put the Tipton Committee in a position to resume and carry on their pumping operations. The meeting was well attended, and great interest was manifested in the proceedings. It was shown on behalf of the committee that there was at the present time a total debt on the Tipton district of 52,000*l.*, towards meeting which there were now rates over due amounting to about 1100*l.* With the 40,000*l.* loan it was proposed to pay off an overdrawn balance at the bank of 24,000*l.*, to pay off bonds which had fallen due, and to distribute the remainder amongst general creditors, whose accounts should have been paid some time back. The law clerks' scheme for raising the loan was that it should be raised by bonds at 5 per cent. interest, to be taken up by the mineowners, and repayable in instalments extending over eight years. It was calculated that the Mines Drainage rate to be levied in the Tipton district this year would realise some 18,000*l.*, and that this would defray all the cost of carrying on the pumping operations in the district during the year. After much discussion 600*l.* was subscribed in the room to at once restart the four engines that had been put to stand, and to keep them at work for a month, and a committee of six coalowners unconnected with the Commission was appointed to in the meanwhile consider the best means, and to take steps for raising the 40,000*l.* required, and to confer with the Commission to assist in carrying out its objects.

The immediate future of trade is this week regarded in a more cheery spirit by business men in South Staffordshire as the result of the speech upon the iron trade which the Earl of Granville delivered in Wolverhampton on Friday night last. The hopeful view which generally speaking his lordship took is regarded with much gratification as coming from such an authority, at the same time that there is no denying his lordship's statement that "still lower prices are ruling." Earl Granville's declaration that "he for one was not afraid of foreign competition" meets with a ready response by ironmasters in this district, who believe that when business shall manifest that decided improvement which is certainly in store for them much less will be heard about foreign competition than is now the case.

REPORT FROM DERBYSHIRE AND YORKSHIRE.

June 12.—Since the holidays business at the mines and ironworks has got into its ordinary course again, but trade is by no means brisk. The production of pig has been kept up to the average of the last month or two, but there are several furnaces out, and a marked change must take place before they are again in blast. Of late a little more has been done in pig and other iron for Sheffield and other places, but prices are still very low, without any appearance of a rise being likely to take place. Makers of Bessemer rails keep busy, and a steady business continues to be done in light malleable castings. Several of the largest collieries have been doing an active trade with the Metropolis in house coal, but since the commencement of June there has been a gradual falling off, consequent on the pits in Durham being again in full operation. Partly from the same cause the price of coal in the metropolitan market has had a considerable drop, so that consumers can now have Silkstones put in their cellars at from 21*s.* to 22*s.* per ton, which is 3*s.* a ton less than was charged only a few weeks since. Yet low in price as coal is, and unremunerative as it is to colliery owners, there is every probability of its receding still lower. It will be evident, therefore, that there must be a revision of the present prices for getting coal. At one place a considerable number of men are on strike against a reduction of wages, whilst meetings are being held, at which the men state that they purpose demanding a 10 per cent. increase, and talk about setting the collieries down if it is not conceded. There will, however, be a change before long, for with the warm weather we may expect that many colliery owners will not be able to find more than three days a week for their hands. Steam coal is still in only moderate request, and not much is being done in slack and smudge.

In Sheffield several of the manufacturers are better off than they have been, and orders have come more freely of late from the United States, Australia, and South America. An order for armour-plates for our own Admiralty is just being completed, and a few days ago Lord Cranbrook whilst in the town saw one of these monster plates for the Inflexible rolled. His lordship, it may be said, is a Yorkshireman, and a partner in the firm of Hird, Dawson, and Hardy, of the well-known Lowmoor Works, near Bradford, and where there are no less than seven ordinary rolling-mills. In ship and boiler plates a steady business is being done by the leading firms, but there is only a moderate output of sheets. Makers of Bessemer rails are still well employed, but we hear of very little being done with respect to ordinary iron rails. A good deal of Bessemer is also being made of special qualities for cutlery and other purposes. In tyres, axles, and rods a steady trade is being done, whilst file makers are better off than they have been. Australia and South America are sending orders for edge tools, light agricultural implements, and sheep shears, whilst the former is also a good customer for engines and machinery, as well as for cutlery and hardware. Several of the old cutlery establishments are able to find their hands full employment, most being done in the finest qualities of table and pocket knives, inferior sorts not being in much request.

In South Yorkshire there is a good deal of speculation as to the course the colliery owners are likely to adopt in consequence of the extraordinary decision given by the umpire, who has admitted making a serious mistake by stating that the average wages of the miners was only about 23*s.* 6*d.* a week, whilst according to his own

figures it was nearer 27s. Such is the state of the coal trade at the present time that most of the pits are being worked at a loss, and this is likely to increase more than otherwise. Many of the owners have been losing as much as 6d. per ton in all coal brought to bank, and this they cannot continue to do longer. It is, therefore, plain that something will be done, and that before long, for the heavy losses of last year cannot be repeated this.

A few days since a meeting of the Coalowners' Association of South Yorkshire and North Derbyshire was held at Sheffield, but nothing definite was done with respect to the wages question. It is expected, however, that another meeting will shortly be held, and some decision come to with regard to the miners' wages.

Next month the Stephenson Memorial Hall in Chesterfield is to be opened by the Duke of Devonshire, and the ceremonial promises to be a most imposing one. There will be a large gathering of the most eminent civil, mining, and mechanical engineers in the country to do honour to the memory of the great locomotive inventor and railway pioneer, who died within sight of the new hall.

REPORT FROM THE FOREST OF DEAN.

June 12.—There is scarcely any change for the better in the district as it regards the staple trades of iron and coal; excepting one or two pits slack trade and limited employment are the rule, and where it is otherwise, as at Trafalgar, it is understood to be secured by selling in large quantities at a special price, as without exceptional contracts collieries are found to fare much alike in good or bad times. The tin-plate quotations are reported as reduced somewhat, but that the local trade is fairly active; and the dispute at Lydney is ended for the present at all events. There is a good demand for wire, and the forges are well employed; still, regarding the whole population, it is only a portion of them that are profitably engaged, the remainder being in a state of poverty, amounting in too many cases to semi-starvation. Some, however, are hopeful that general improvement will ultimately come; perhaps, they think, on the approach of next autumn, whilst others are doubtful as to the future, hope long deferred having already made them sick at heart. The iron trade is low, referring, of course, to pig. Trade is said to have improved within the last month somewhat at Lydney Docks.

TRADE OF THE TYNE AND WEAR.

June 11.—The shipping trades on these rivers continue brisk, and it is considered that generally these are evident signs of an improvement. The Steam Coal Trade in Northumberland continues good; most of the collieries are in full work, and the exportation of coal from the ports on the coast has increased considerably. This has especially been the case at Blyth and Amble, where vessels have been in some cases "in turn" for several days. Some consider that this revival in trade is only temporary, but it is generally believed that the worst of the times has been past, and that the commercial depression which has prevailed so long will ultimately give way to a period of briskness in all trades and occupations. It is expected that the works in the steam coal district will be well occupied during the next few months. In Durham most of the collieries are in full work, but there are some exceptions. In the Crook district work is very slack, and a number of men are out of employment there. In the Guanless Valley the works were well employed during the late strike, as the men were not connected with the Union, but now a vigorous attempt is being made to get all the men to join the Union. At South Hetton 700 men are on strike against a proposed reduction of 25 per cent. on one of the seams. At Haswell 1200 are out owing to the putters having struck work on the ground that they are underpaid. Lord Derby has been selected umpire in the Durham coal trade dispute, and he has accepted the post.

That the Coal and General Trade of the Tyne and Wear will revive, or at all events keep apace with and compete with the trade of other districts, we have not the smallest doubt. With rivers and docks unrivalled, and every facility for shipping coal and other products, and fleets of steamers fitted with the best appliances for delivering those products, and added to this the low cost of transit by sea, it is evident that competition need not be feared. A steamer has been engaged within the last few days to load coal for London at 3s. 10½d. per ton, and a boat is also freighted to load coal three voyages at 5s. a ton for Tonning. A large boat was also chartered on Monday to load coal for Bombay at 30s. per ton. Of course, those rates are vastly below those for land carriage, and if coal can be worked here as cheaply as in other districts, and this cannot at all events be doubted, the competition of other fields need not ultimately be feared.

The British Association of Gas Managers held their annual meeting in Newcastle during this week. The meeting commenced on Tuesday under the presidency of Mr. W. J. Warner, C.E., of South Shields, who delivered an inaugural address. On the same evening a lecture was given by Mr. G. A. Lebour, Professor of Geology, on Practical Notes on Coal and Coal Getting, and since that time a number of useful and instructive papers have been read by various members. We append a list of these papers and a short abstract of the lecture by Mr. Lebour:—

The Automatic Pressure Changer, by Wm. Cowan, of Edinburgh.
How can Gas Companies best Promote the Application of Gas for Heating Purposes? by Thomas Travers, of Cork.
Lighting by Gas and Electricity, by William Sugg, of London.
Notes on the Rapid Corrosion of Gas Holders in Hot Climates, by L. Monk, of Lanark.
Protective Paints for Gas Holders, by J. Douglas, of Portsea.
Gas Engines, by W. Carr, of Halifax.
Coke, the Best Means of Utilising it, by C. Sellars, of York.
Economy in the Construction of Engineering Works, by J. W. Sandeman, of Newcastle.
A New Form of Condenser, by William Wright, of Brighton.
The Application of Hydraulic Machinery to Gasworks, by J. A. G. Ross, of Newcastle.
Economy in Raising Steam in connection with Gasworks, by F. M. Harris, of Falmouth.
The Albo-Carbon Light, by J. Douglas, of Portsea.
The Lamplighter's Tell-tale and Time-keeper, by E. Price, of Hampton Wick.
The Gas Supply Pipes beyond the Consumer's Meter, by N. H. Humphrys, of Westbury.
The Estimation of Ammonia in Gas Liquor, by Wm. Foster, of London.
Hydraulic v. Faced Valves for Purifiers, by James Thomas, of Bodmin.

This meeting of gas engineers has attracted much attention, and it will no doubt be productive of much good, as much light has been thrown on a subject but little understood in the North—the use and economic value of gas for heating and for cooking purposes. Strange to say, this branch of the subject has been almost neglected here, having been adopted to a very limited extent indeed, but the information derived from the visit of the gas engineers, and the exhibition of gas stoves and appliances for cooking, have had the effect of directing attention to this important subject, and it will, without doubt, cause the adoption of those appliances to a great extent in this district, as it is evident that great advantages are derived from their use both on the score of cleanliness and economy.

Mr. J. G. Cranston, of Newcastle, whose name is known in connection with rock drills, air compressors, and coal cutters, has invented a machine which is worked by a dynamo-electric machine, and which he claims will dress millstone or other stone, and drill rock economically and with great dispatch. The chisel employed is fastened to a spring arm, which protrudes from a case containing magnets and armatures. This spring arm, when the magnets are connected with the dynamo-electric machine, moves up and down with extreme rapidity, causing the chisel to strike a blow at each descent. It is stated that it can be made to strike from 1000 to 2000 blows per minute. Wires being used in place of steam pipes enables the apparatus to be moved readier to any angle, or worked any reasonable distance without much loss of power. The machine is fixed on a frame which is portable, and by means of screws can be so adjusted as to cause the chisel to strike any portion of a circle with either a swift or slow motion, the number and intensity of the blows being regulated according to the softness or hardness of the stone.

Mr. G. A. Lebour, in the course of an interesting lecture, spoke of the difficulties with which coal getting is associated, and showed how those difficulties had gone on increasing year by year, increasing at the same time the price of coal. He showed what a coal seam consists of, and explained the structure and quality of coal. He also explained the faults and dislocations in seams, and showed the various modes of working and ventilation adopted, and concluded by pointing out that we in England no longer had all our own way with coals, but that we were being competed with not only by the French and German coalowners, who had in some respects a better coal than the best of the English, but also by the American coalowners, and that, therefore, it behoved all interested in English coal production to use the very best means and improved appliances for coal getting.

REPORT FROM MONMOUTHSHIRE AND SOUTH WALES.

June 12.—The Government Inspector of Mines for the south-western district—Mr. Thomas Cadman—has drawn up a report, which appears among others in a Blue-book lately issued. The quantity of coal wrought in Monmouthshire during the year 1878 was 4,491,191 tons, and ironstone 99,773 tons. Only parts of Glamorganshire and Breconshire are included in Mr. Cadman's district. Apropos of the Abercarn explosion, Mr. Cadman gives it as his opinion that in very fiery mines it would be desirable to let the pit stand idle for some time in the 24 hours. He is likewise of opinion that some derangement had taken place in the Abercarn Pit in the ventilation of the district where the explosion occurred. Gas was thereby allowed to accumulate, which it would do in a very short time, and was fired by "one of the so-called safety-lamps in use." The lamps are those generally used in Monmouthshire and South Wales.

Application has been made by one of the proprietors of the Dunraven Colliery, Blaenycwm, at the Pentre Police Court, for power to remove the checkweigher, Rees Williams, employed by the men. Williams, it appears, is an Union delegate, and he issued to the workmen notice papers of a termination of contracts with their employers (the complainants). Mr. T. Joseph, the proprietor, who appeared, said he would stop the colliery at the end of the present month and wait for better times. A summons was granted against the checkweigher.

During the present month the private railway belonging to the Nant-y-Glo and Blaina Company will pass into the hands of the London and North-Western Railway Company. The debenture-holders have confirmed this arrangement, and with but little delay the ironworks, which have been long stopped, will be pulled down and broken up. It was stated that the income of the company in the present year would be quite enough to pay all interest on mortgages and debentures; and that from the increase of the output of coal and new lettings the income in the coming year will be increased.

The Iron Trade during the past few days has exhibited no improvement, go where one will—to Blaenavon, Tredegar, or other centres of industry—inactivity at the works is sure to be complained of. Here we are nearly in the middle of the year and no prospect of improvement; prices no better, but rather showing a downward tendency. Clearances during the past week have again been small, the principal one, of pig-iron, being shipped to Portugal. There is little or nothing doing in railway iron, and steel rails are not so brisk. The colonial demand does not appear to be so brisk, but Brazilian requirements will shortly be sent off. Bars are comparatively unchanged. Pig-iron is, if anything, a little more active. Spanish ore continues to arrive in fair quantities. The Tin-Plate Trade is moderately active, and prices are maintained up to the average. There appears to be a rather better tone pervading this branch of trade.

The demand for coal is fairly well kept up, yet it does not increase, although there are some fair orders in hand. On foreign account there is about the usual enquiry for steam qualities. House coals are in moderate request only. Patent fuel is rather more active. Notwithstanding the depression of trade, colliery enterprise has by no means fallen off. Sinking operations have been now fully completed at Harris's Navigation new pits, Quaker's Yard. The pumping and winding engines are now being fixed. The aspect of the wages question has but little changed. The men, it is believed, in fact known, are not in a position long to struggle against the employers' terms. The sliding scale will doubtless be abolished. The coalowners who are freighters on the Taff Vale Railway have held a private meeting at Cardiff. It is understood that although no course was at the time definitely decided on, the intention is to present a petition against the Company's Bill to the House of Lords.

MANGANESE BRONZE.

About three years since we drew attention to this new alloy, the invention of Mr. P. M. PARSONS, and manufactured by the White Brass Company, Southwark, and ventured to predict some of the uses it was likely to be put to, in consequence of its possessing the qualities of hardness, strength, and toughness in a much higher degree than ordinary brass or gun-metal, and we are glad to find that our expectations are being realised.

In order to illustrate the progress made by this invention Mr. Parsons sent to the South Kensington Museum a large collection of specimens for exhibition at the Conversazione of the Institution of Civil Engineers, held there the end of last month. Unfortunately, from some misunderstanding as to the amount of space to be provided, there was only room for one-third of the specimens sent; and the position of these was in such an obscure corner that few of the visitors saw them. We may, however, to some extent supply the deficiency by giving a description of the various articles. There was, first, a splendid rolled plate 9 ft. long by 3 ft. wide, No. 11 wire gauge, of beautiful colour and perfect in texture and surface, together with angle bars and rivets of the same quality of metal rolled hot; also a smaller piece of two plates and an angle bar riveted together cold to illustrate the application of the manganese bronze to the building of torpedo boats, steam launches, yachts, &c., these plates, &c., being a part of some supplied to the Thames Ironworks Company for a torpedo boat built by them to the order of Messrs. Maudslay Sons and Field for the Admiralty. The manganese bronze was proposed by Messrs. Maudslay with a view to obviate the defect steel is liable to of rapidly oxidising, and the contract for the bronze plates was taken under a stipulation that they should sustain the Admiralty test for steel plates, which they did perfectly, giving a tensile strength of over 29 tons per square inch, and an elongation of 25 to 35 per cent., and bending without cracking to a much closer radius than stipulated by the Admiralty. Besides these specimens in rolled and forged metal there were a number of rolled rods of various sizes used for pump rods, and for making into bolts, &c.; several forged bolts and nuts, one of large size for holding on the blades of propellers; and, lastly, coils of wire of various gauges from that used for making rivets down to the smallest size.

In the way of castings there were a pair of connecting rod brasses belonging to the engines of one of a pair of vessels Messrs. R. Napier and Son, of Glasgow, are building for the Pacific Steam Navigation Company, in which engines nearly all the parts usually of gun-metal are of manganese bronze, including the main bearings, crank pin, brasses, piston rings, &c. Besides this company, a large number of the principal steam navigation companies and engineers are using the manganese bronze for these purposes, it having been proved by careful experiments that it is at least 60 per cent. stronger than gun-metal, and wears three or four times as long. The next article is a casting of a cylinder and frame of a rock-boring machine, shown to illustrate the applicability of the metal to make intricate castings; then, of the same metal, some castings for stop-cocks, and a cycloidal propeller. The metal from which all these articles are cast has peculiarly valuable qualities. In the first place, in casting it runs very fluid, and the thinnest and most intricate castings can be made from it perfectly sound. It is wonderfully strong and tough when simply cast—a 1 in. square bar on supports, 12 in. apart, required 4256 lbs. to break it, which is considerably above the strength of good wrought-iron; a piece of plate, not more than ¼ in. thick, cast in green sand, with a beautiful surface, was shown doubled up nearly flat without cracking; this same quality can also be forged and rolled, and then its strength is quite equal to that of steel.

The average tensile strength of the metal when forged or rolled is 30 tons per square inch, with an elastic limit of from 11 to 18 tons, and an elongation of from 20 to 45 per cent., this is in its annealed state; when it is cold worked or rolled the breaking strength in bars or rods rises to about 40 tons per square inch, with an elastic limit of over 30 tons, and an elongation of about 12 per cent. When drawn into wire the strength goes up still higher, the highest yet obtained being about 70 tons per square inch; but further experiments are still being conducted, with a view to get a yet higher result, as it is believed from the peculiar musical tone the metal emits that it will be admirably adapted for the wires of musical instruments, as it will have the additional advantage of not rusting.

It will also be applicable to a variety of other purposes, for which ordinary brass is now used, such, for instance, as wood screws, hinges, the plates and other parts of locks, and brass fittings generally, for all these purposes a quality can be supplied at least twice as strong as ordinary brass, and not more costly. In order to test the strength of the metal for wood screws some were simply cast in sand of the manganese bronze, using an ordinary iron screw as the pattern, and these cast screws were tested against the iron screws they were made from by screwing each into solid blocks of wood up to the head without first boring any hole in the wood except for ¼ in. to enter the point of the screw; the result was both the iron and the bronze screw went into a piece of deal up to the head; they then did the same into a piece of hard Spanish mahogany; and, lastly, they were tried in solid boxwood; they both entered into this about ¼ in. beyond the screwed part, and then twisted off.

This test, therefore, showed that manganese bronze screws simply cast were about as strong as wrought-iron, and when they come to be made of drawn wire they will fully equal steel, and this superior strength will, no doubt, be of equal advantage for all the articles above enumerated.

WATSON BROTHERS' MINING CIRCULAR.

WATSON BROTHERS,
MINEOWNERS, STOCK AND SHARE DEALERS, &c.
1, ST. MICHAEL'S ALLEY, CORNHILL, LONDON.

PRINCE OF WALES.—We had never been informed by any agent of the mine until last week that the Goodluck adit could be extended so as to ease the engine, work the deep levels, and intersect other lodes at a good depth. The resolution for the sale of this property had to be confirmed on the 26th, after which it will be advertised.

WHEAL CREBOR.—The winze from the 108 is down 5½ fms., and has 6½ more fathoms to reach the 120. It is 7½ fms. before the 120 end, which for some time has been poor, but looks like coming into ore again. The new shaft in the new or eastern ground is down to the 48, and will, we suppose, take 12 months or more to reach the 120, and enable the mine to be sunk deeper. Still, if the 108 and 120 ends are both in ore and communicated by the winze the returns ought to be sufficient to meet costs, and it is the improvement in this winze, we presume, that has caused shares to rise.

PARYS CORPORATION.—We shall look for a great and sudden rise in these shares before long, and the public seldom buy until after a rise has taken place.

SATURDAY, JUNE 7.—Market for tin shares rather firmer. South Condurrow, 11½ to 12; South Frances, 8½ to 9; Dolcoath, 24 to 28; West Frances, 5¾ to 6¼; Peevor, 9¼ to 9½; Grenville, 4 to 4⅛; Tincroft, 9 to 9½; Roman Gravels, 8½ to 9; Van, 17 to 18; Great Laxey, 15 to 16; Herodsfoot, 3 to 3½; Morfa Du, 16s. to 18s.; Tank-rville, 3¼ to 3½.

MONDAY, JUNE 9.—Market generally firm, with a fair demand for Wheal Peevor and Crebor shares, at advanced prices. Van, 17 to 18; Roman Gravels, 8¼ to 9; Herodsfoot, 3 to 3½; Great Laxey, 15 to 16; Leadhills, 1⅞ to 2⅛; East Van, 1½ to 1¾; Aberllyn, 10 to 12; Peevor, 9½ to 10; South Francis, 8½ to 9; South Condurrow, 11½ to 12; West Basset, ¼ to 4½; Agar, 3¼ to 3¾; Grenville, 4 to 4½; Crebor, 20s. to 30s.; West Seton 12½ to 15; Parys Copper, 9s. to 11s.; Morfa Du, 16s. to 18s.; West Seton, 12½ to 15; Don Pedro, 18s. to 20s.; Cape Copper, 27 to 28; Richmond, 8⅞ to 8½.

TUESDAY, JUNE 10.—Market continues steady, and prices almost the same as yesterday.

WEDNESDAY, JUNE 11.—Market moderately active. Van, 16½ to 17⅛; Great Laxey, 15 to 16; Roman Gravels, 8¼ to 9; Herodsfoot, 3 to 3½; Tankerville, 3¾ to 3¾; Aberllyn, 10 to 12; Bettws-y-Coed, 15s. to 20s.; East Van, 1½ to 2; Leadhills, 1⅞ to 2⅛; West Chiverton, 1½ to 2; Carn Brea, 25 to 27; Dolcoath, 24 to 26; South Condurrow, 11½ to 12; South Frances, 8¾ to 9; Peevor, 9¾ to 10¼; Tincroft, 9 to 9¼; West Basset, 4 to 4½; West Frances, 5¼ to 6; Agar, 3¼ to 3¾; Grenville, 4 to 4⅛; Crebor, 20s. to 30s.; Mellanear, 3½ to4; Devon Great Consols, 1⅝ to 1¾; Marke Valley, 10s. to 15s.; Parys Copper, 9s. to 11s.; Morfa Du, 16s. to 18s.; West Seton, 12½ to 15; Don Pedro, 18s. to 20s.; Cape Copper, 27 to 28; Eberhardt, 3 to 3¼; Frontino, 2 to 2¼; Richmond, 7¾ to 8.

THURSDAY, JUNE 12.—Market again firm for tin stocks. South Frances, 8¾ to 9¼; Peevor, 9¼ to 10¼; South Condurrow, 11¼ to 12; Dolcoath, 24 to 26; Grenville, 4 to 4⅛; Roman Gravels, 8¼ to 9; Van, 16½ to 17⅛; Tankerville, 3¾ to 3¾; West Chiverton, 1¾ to 2; Herodsfoot, 3 to 3½; Great Laxey, 15½ to 16¼; East Van, 1¾ to 1⅞; Mellanear, 3½ to 3¾; Crebor, 20s. to 30s.; Parys (Copper), 9s. to 11s.; West Seton, 12½ to 15; Don Pedro, 18s. to 20s.; Santa Barbara, 7⅞ to 8¼; Panulcillo Copper, 26s. to 27s. 6d.; Cape Copper, 27 to 28.

FRIDAY, JUNE 13.—Market moderately active for Great Laxey, Van, Crebor, West Chiverton, and Roman Gravels. Van, 17 to 18; Great Laxey, 15½ to 16⅛; Crebor, 20s. to 30s.; West Chiverton, 2 to 2⅛; Peevor, 9¾ to 10¼; Roman Gravels, 8¾ to 9; Dolcoath, 25 to 27; South Frances, 8¼ to 9; South Condurrow, 11½ to 12; Grenville, 4 to 4⅛; Aberllyn, 10 to 12; Herodsfoot, 3 to 3½; Mellanear, 3¼ to 3½; West Frances, 5¼ to 5½; West Seton, 12½ to 15; Parys (Copper), 9s. to 11s.; Morfa Du, 16s. to 18s.; Don Pedro, 18s. to 20s.; Cape Copper, 27 to 28; Richmond, 7⅞ to 8⅛.

THE WEEK.

SATURDAY, JUNE 7.—A very large business was done in Varna Obligations at prices varying from 6½ to 6⅝. It is anticipated that some payment on account of arrears may be made by Bulgaria, and many are sanguine of seeing the price up to 10*l*. The 30 per cent. Obligations issued at 20*l*. carry nine overdue coupons of 6s. each. Alabama have now reached 2⅝, and East Argentine 8. Mexican Railway shares 2, and First Preference 7¼. Odessa Water-Works and Government Stock Investment shares are looking up a little, as are Railway Debenture Trust and Railway Share Trust.

MONDAY.—Odessa Waterworks had a rise of 10s., to 4, 5; shares are 20*l*. paid. Rio Tinto Seven per Cent. bonds continue in good demand, and were to-day dealt in at 16¼; although 20*l*. paid, they were only issued at 16—14, and, therefore, may be considered as having reached par—a great relief, doubtless, to original holders who have seen them so long neglected at 12¼ and 13. There is still a decided dulness in tramway shares, and to-day there was a general fall all round. So many, however, are still quoted absurdly high that yet lower prices may be looked for. Some excitement prevailed on the mining market by Wheal Crebor doubling in price—from 10s. to 20s.

TUESDAY.—Tramway shares were offered on all sides. London fell as much as ¾. Many companies will shortly require to expend large sums on the renewal of permanent ways and new cars, and as the capital account is closed, this will press hardly on the chance of dividends being paid. A large business was done in Pennsylvania shares at from 34½ to 33¾, and the market was also active for Reading shares, which advanced ½, to 21. Royal Sardinian were firm at 3¼, and Varna Obligations 6¾.

WEDNESDAY.—A large business was again done in Varna Obligations at advanced prices. The Six Per Cent. rose 10s. (to 6*l*.), and the Three Per Cent. had an advance of ⅜ (to 7½). Mexican Bonds commanded a large share of attention. In the morning they were rather neglected, and fell to 11¾, but ultimately closed very firm—12*l*., buyers. Egyptian Preference rose to 64*l*., and the Unified advanced as much as 1 per cent., closing 45¾.

THURSDAY.—The announcement of an 8s. dividend must be very welcome to the holders of Hudson Bay shares, many of whom three years ago paid as much as 32*l*. There has been nothing paid since 1876, but the company has a fine future before it, and from time to time, when shares were below 11*l*., hints were given in this article that they were worth looking after. They now fetch 15*l*. Bolivians have been carried over at 36*l*., as against 24*l*. last account; Unified at 44¼, against 40⅜; and Preference at 63¾, compared with 60¾ in May. Egyptian Preference and Unified were again very strong, and had a marked rise.

FRIDAY (*Opening*).—There is some reaction from the extreme prices reached by Egyptian last night. The Unified, from being then in demand at 46, are now offered at 45¾. The Preference is ⅛ down, 65⅛ to 65¾. Caledonian remains dull, at 99¾. Mexican Bonds are offered at 12; Rio Tinto 7 per cent., 16¾ to 17; Plumas Eureka, 2⅝ to 2⅞; Colorado, 1¾ to 1⅝; Frontino, 1⅞ to 2⅛; Don Pedro, 17s. to 19s.; Varna Obligations, 6⅜ to 6¾. Wheal Crebor shares are in demand, at 22s.; last Friday they were quoted 8s. to 10s.——*Two o'Clock.*—Unified and Preference are hardly changed, but weaker, being 45⅛ to 45¾, and 65⅛ to 65⅝. Brighton, A, 114 to 114¼. Great Eastern inclined to be dull, and only 59½ to 59⅞. Turkish Fives, 11 5-16ths to 11 7-16ths; Ottoman Bank, 10½ to 10¼. Hungarian Gold has receded ¾, to 83¾ to 83¼. Mexican, 11½ to 12; Italian, 80¼ to 80½; Alabama, B, 2¼ to 2¾; Penns, $38½ to $39; Reading Shares, $30¼ to $31; Erie Second Mortgage, 74¾ to 74⅝; Varna Obligations, 6⅞ to 7⅛.——*Four o'Clock.*—Paris prices having come higher, Egyptian Preference and Unified have recovered to last night's price—viz., 65*l*. and 45*l*. There has been a rally to 61*l*. in Great Eastern. Trunk First, 46½; Second, 27⅞ to 28¼; Third, 14 to 14⅛; Antioquia, ⅜ to ⅝; Port Phillip, 9s. to 11s.; Gold Run, ¼ to ⅜; Javali, 4s. to 6s.; Penstruthal, 2s. to 3s.; Kapanga, 6s. to 8s.; Bilson and Crump Colliery, 2*l*. to 2*l*.; Chapel House 1¼ to 1¾; West Mostyn, ¼ to ⅝; Cardiff and Swansea, ¾ to 1.

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FINE GOLD.—Mr. Louis Blanding, during a recent mining trip to Tuolumne County, had his attention called to the exceptionally high fineness and value per ounce of the gold from the San Guiseppi quartz mine, near the town of Sonora. He tells us that in his experience of 20 years he has never known or heard of quartz gold going to 978 fine, equal to $20·24 per ounce. This result was given by a lot worked in his own mill, and it is sufficiently interesting from its rarity to make a note of.

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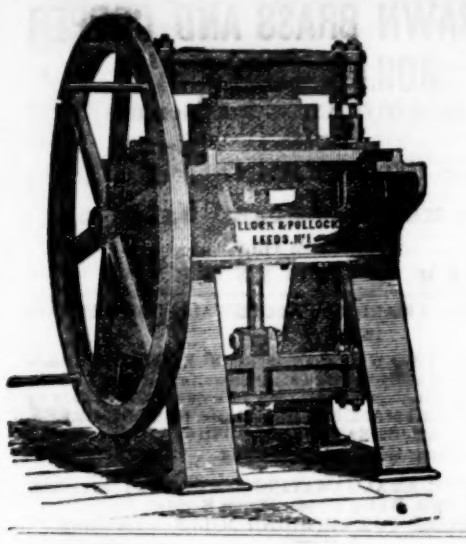

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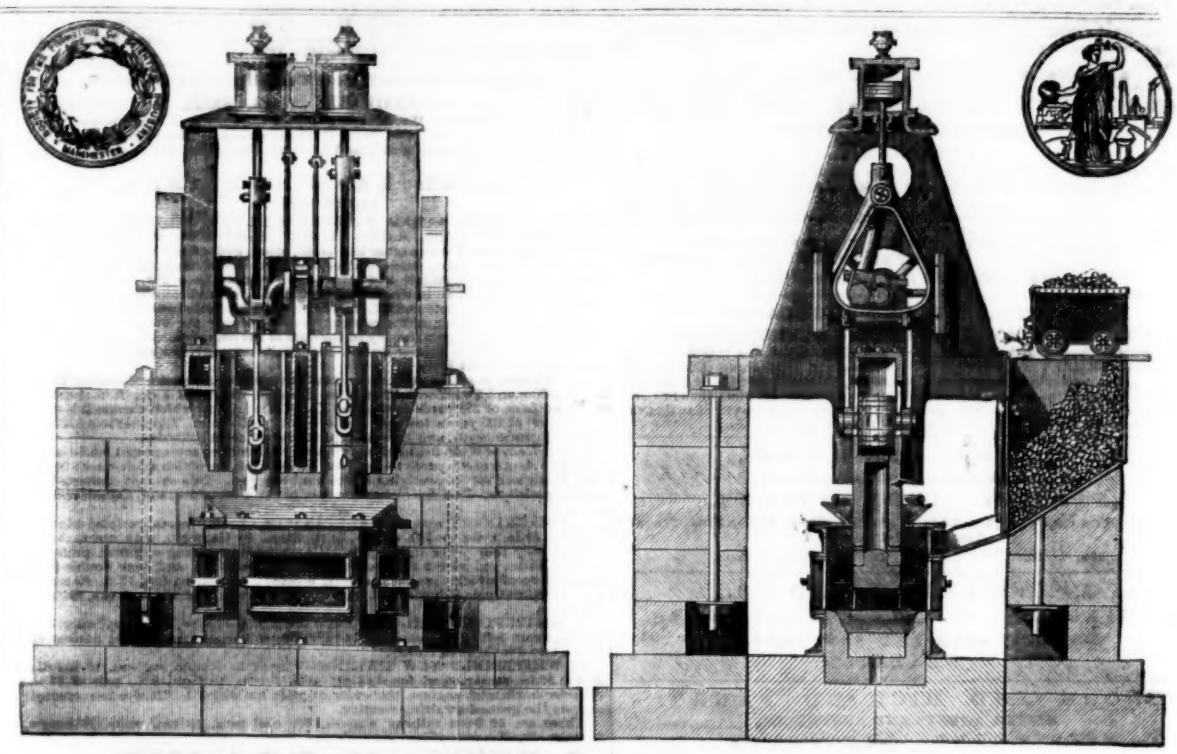

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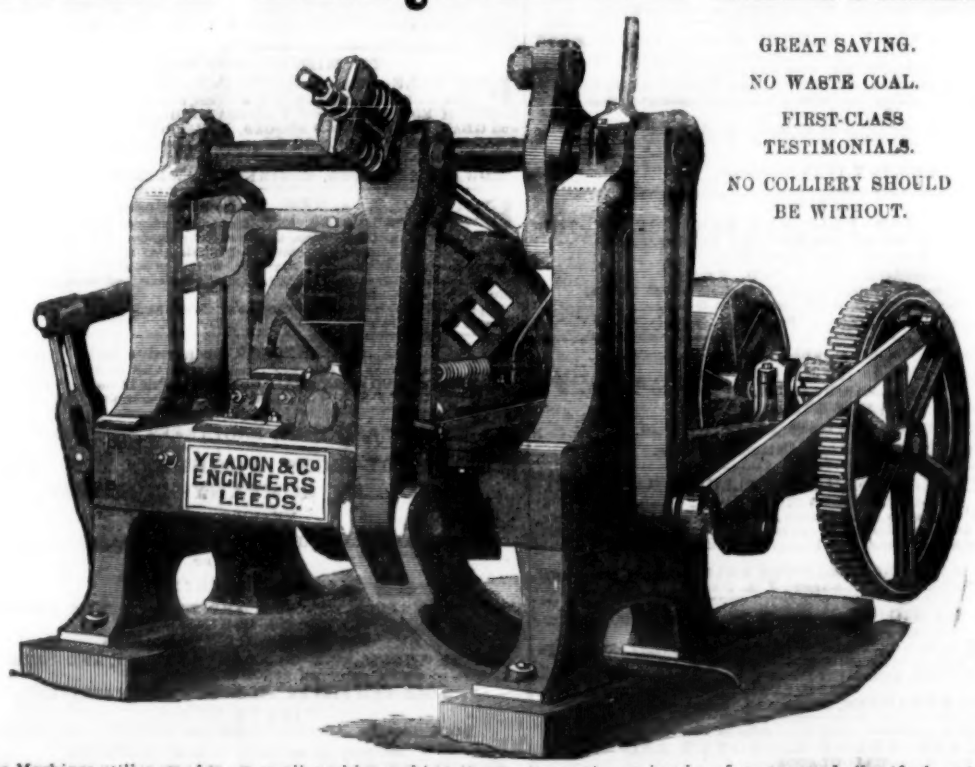

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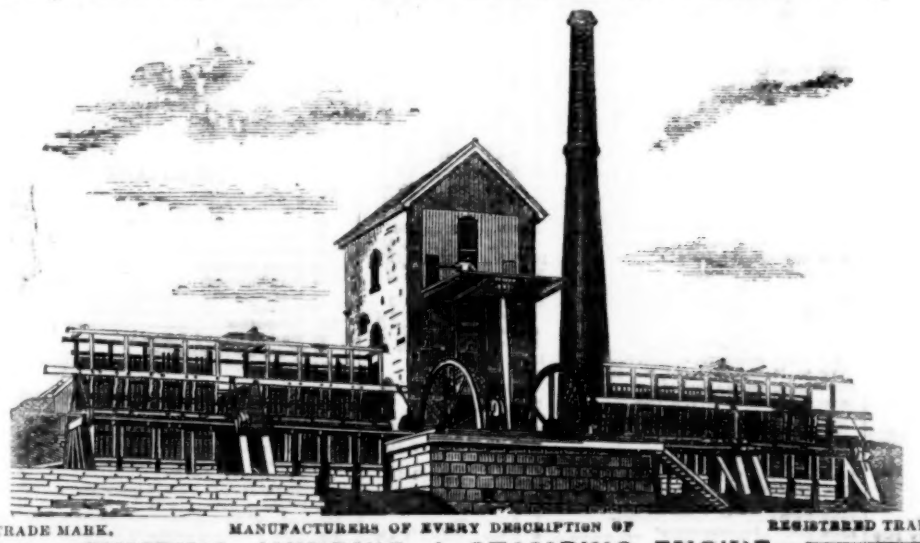

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70000	English & Australian, c† B. Aust.	10 0 0	... 3½	.. 2¾ 3¼	1 8 0	0 3 0	...Dec. 1877
30000	Flagstaff, s, Utah*	2 10 0	... 1⅜	.. 1⅛ 1⅜	2 16 9	0 1 0	...Mar. 1878
25000	Fortuna, l, Spain*†	10 0 0	... ⅜	.. ⅛ ⅜	4 2 0	0 5 0	...July 1873
55000	Frontino & Bolivia, g, New Gran.*†	2 0 0	... 4¼	.. 3¾ 4¼	7 4 11	0 1 9	...Apr. 1879
30000	Gold Run, hyd.	2 0 0	... 2¾	.. 1⅞ 2⅛	0 3 6	0 1 6	...Feb. 1879
100000	Hercules and Roe, s, Colo., fy. pd.	1 0 0	... —	...	0 2 4	0 0 4	...Oct. 1872
60000	Kapunda Mining Co. Australia†	2 0 0	... —	...	2 8 0	0 2 0	...Jan. 1876
30000	Last Chance, s,* Utah	1 8 0	... —	...	0 2 4	0 0 6	...June 1873
15000	Linares, l, Spain*†	5 0 0	... —	...	0 14 0	0 2 0	...July 1879
65000	London and California, g*†	3 0 0	... 4	.. 3¼ 4	17 12 10	0 2 6	...Apr. 1879
5000	Mamm. Copperopolis of Utah, c, s	10 0 0	... —	...	0 5 0	0 5 0	...July 1878
5000	Mountain Chief, s, Utah*	10 0 0	... —	...	0 4 0	0 4 0	...Dec. 1872
16000	Pontgibaud, s-l, France†	20 0 0	... —	...	15 per cent.		...Jan. 1873
100000	Port Phillip, g, Oluues*† (£2 sh.)	1 0 0	... 21	... 18 20	27 6 9	0 7 6	...June 1879
54000	Richmond Consols, s, Nevada*†	5 0 0	... 8	... 7½ 8¼	7 1 6	0 0 10	...Feb. 1879
40000	Santa Barbara,* g, Brazil	0 10 0	... 2½	.. 1⅞ 2¼	0 7 3	0 1 6	...May 1879
120000	Scottish Australian Mining Co.*†	1 0 0	... 2	... 1½ 2	15 per cent.		...Nov. 1878
80000	Scottish Austral. Mining Co., New	0 10 0	... 1	... ¾ 1	15 per cent.		...Nov. 1878
22500	Sierra Buttes, g, California*†	2 0 0	... —	...	2 0 6	0 1 6	...Apr. 1879
40625	S. B. Plumas Eureka	2 0 0	... 2½	.. 1⅞ 2¼	2 1 0	0 1 0	...Apr. 1879
£263000	St. John del Rey*† (£5 stock & multiples dealt in)		... 2⅞	.. 2¾ 2⅞	2 1 0	0 0 8	...Apr. 1879
20000	Tolima, g, s* So. America	5 0 0	... —	...	⅛ year. 15 p. ct. for Dec.		1878
35000	Victoria (London)*, g, Australia	1 0 0	... —	...	0 11 6	0 0 6	...May 1874
15000	Western Andes, s,* New Granada	5 0 0	... 3⅝	... ¾ ¾	0 12 6	0 0 7½	...Jan. 1878
21800	W. Prussian (5500 pref. sh. 10l. pd)	10 0 0	... —	...	0 12 0	0 2 0	...July 1876
			... 10⅜	... 10 10¼	1 10 0	0 4 0	...Jan. 1879

NON-DIVIDEND FOREIGN MINES.

Shares	Mines.	Paid.	Last Pr.	Clos. Pr.	Last Call.
12000	Argentine, g, Argentine Republic	5 0 0	... —	...	...Fully pd
30000	Blue Tent, hyd., California	5 0 0	... —	...	...Fully pd
10000	Buena Ventura,* l, Llano de las Infantas, Spain (£2 sh.)	0 10 0	... 2	... 2 2¾	...Fully pd
15000	Canada,* g, Canada	1 0 0	... —	...	...Mar. 1879
49935	Chontales, g, s, Nicaragua*†	2 0 0	... 2½	.. 2 2¾	...Fully pd.
75000	Colombian Hydraulic, g, Colombia	1 0 0	... ⅜	... 1s. 3s.	...Fully pd.
16000	Condes of Chili, s-l	5 0 0	... —	...	...Fully pd.
30000	English Australian, g, Victoria*	1 0 0	... —	...	...Fully pd.
35000	Excelsior Hydraulic Gold Washing Co., California*	6 0 0	... ½	...	...Fully pd.
10 000	Exchequer, g, s, California*†	1 0 0	... —	...	...Fully pd.
100000	Frontenac,* l, Ontario Canada	1 0 0	... —	...	...Dec. 1871
40000	Holcombe Valley, g,* California	1 0 0	... ⅜	.. ⅜ ¾	...Fully pd.
8000	Hornachos,* s-l, Spain	1 0 0	... —	...	...Fully pd.
12000	Hultafall,* l, bl, Orebro, Sweden	10 0 0	... —	...	...Fully pd.
12000	Hunter Consolidated, s-l, Utah	5 0 0	... —	...	...Fully pd.
20000	Imperial Brazilian Collieries, Brazil*	10 0 0	... 2	... 1¾ 2	...Fully pd.
7500	Isabelle, g, s*, California (£20 shares)	5 0 0	... —	...	...Fully pd.
100000	I. X. L., g, s, California*	5 0 0	... —	...	...Fully pd.
50000	Javali, g, Nicaragua*	1 0 0	... ¾	.. ¼ ¾	...Oct. 1878
3500	La Manche, l, Newfoundland	2 0 0	... 5s. 6d.	... 5s. 6d.	...Fully pd
7587	Lusitanian, Portugal*† (£5 sh.)	10 0 0	... —	...	...Fully pd.
12000	Menzenberg, c, Hounef, Germany*	4 15 0	... —	...	...Fully pd.
9800	Missouri Lead Mining & Smelting,* U.S., pref. (10l. sh).	4 0 0	... —	...	Last call, May 1879
4588	New Bensoerg, s, l, Germany	5 0 0	... —	...	...Fully pd.
66000	New Quebrada, c, Venezuela*	5 0 0	... 4½	... 4½ 5	...Allotment
20000	New Zealand Kapanga, g, Coromandel*	5 0 0	... —	...	...Nov. 1876
100000	Nouveau Monde, g, Venezuela (Société en commandite)	5 0 0	... 2¼	.. 1⅞ 2⅛	...Fully pd.
3000	Oregon,* g, Oregon, U.S. (preference shares	1 0 0	... —	...	...Fully pd.
50000	Panuleillo, c, Chili*† (£80000 debentures	4 0 0	... ⅛	... ⅜ ⅛	...Fully pd.
90000	Pestarena United, g, Italy*†	4 0 0	... —	...	...Fully pd
28000	Pitanqui,* g, Brazil (incl. 6000 sh. £1 fully paid)	3 0 0	... 1⅛	.. 1 1⅛	...Fully pd.
25000	Placerville,* g g, California	0 5 0	... ¼	... ⅛ ¼	...Fully pd.
50000	Providencia and New Rosario, s, Mexico*	2 0 0	... ⅜	... ¼ ⅜	...Aug. 1878
40000	Ravenscliff, g, New Zealand; c, South Australia	1 0 0	... 2¾	.. 2½ 2¾	...Fully pd.
£2,181,000	Rio Tinto,* c, Huelva, Spain	0 5 0	... —	...	...Fully pd.
100000	Rossa Grande, g, Brazil*† (£1 shares)	Stock	... ¼	... ¼	...July 1878
30040	Russia Copper, Orenburg and Ufa*†	1 0 0	... 74	... 72 74	...Fully pd.
32000	Sentein,* s-l, bl, Ariège, France	10 0 0	... 3s.	... 1s. 3s.	...Fully pd.
10000	Silver Plume, s, Colorado*	1 0 0	... —	...	...Fully pd
30000	Tecoma, s, Utah*	1 0 0	... 2½	... 2 2½	...Fully pd.
43174	United Mexican, s, Mexico*†	29 2 9	... —	...	...Fully pd.
14000	Utah, g, s-l, Utah*	5 0 0	... 3½	.. 3¼ 3¾	...May 1878
80000	Virneberg, c Rheinbreitbach, Germany*	2 0 0	... —	...	...Fully pd
78000	Yorke Peninsula, c, South Australia	1 0 0	... —	...	...Fully pd.
54800	Yorke Peninsula, c, South Australia Preference	1 0 0	... 4s.	... 2s. 4s.	...Fully pd.
			... ⅛	.. ⅛ ⅜	...Fully pd.

§ Have made calls since last dividend was paid.

FOREIGN AND MISCELLANEOUS STOCKS, BONDS, LOANS, AND TRUSTS.

	Closing Prices	
Argentine, 1868 6 per cent.	79½	80½
Bolivia, 6 per cent. Bond Com. Cert.	35	37
Brazilian, 1865, 5 per cent.	92	94
Chilian, 1856, 7 per cent.	81	84
City of Providence, 5 p.c. coupon bnds	104	106
Egyptian, Gov. preference	65¼	65¾
Do., unified debt, scrip	45½	46
Do., 7 per cent., V.M.L.	75	78
Do., 9 per cent. guar.	76	79
Do., K. Daira Sanieh	49	50

	Closing Prices.	
Foreign and Col. Gov. Trust, 6 p. ct.	68	73
Do., 5 per cent., 2d issue	50	54
Do., 6 per cent., 3d issue	69	74
Do., 1872, 4th issue	65	69
Do., 1873, 5th issue	64	68
Peruvian, 1870, 6 per cent.	12¼	13¼
Do., 1872, 5 per cent.	10¾	11¼
Russian, 5½ per cent. L. Mort.	—	—
Spanish, Quicksilver Mort., 5 p. ct.	101	103
United States Mort. 6 per cent.	102	104

b, blende; bl, coal; c, copper; g, gold; l, lead; s, silver; si, slate; s-l, silver-lead; t, tin; z, zinc.
* Limited Liability Companies; † quoted on the Stock Exchange; § have paid dividends.

NON-DIVIDEND MINES.

Shares.		Paid.	Last wk.	Clos. pr
40000	Aberdaunant, l, Llanidloes*	1 0 0	... ¾	... ½ ¾
2560	Aberllyn,* l, bl, Carnarvon	10 0 0	... 11	... 10 11
10000	Aberystwith,* s-, Cardigan	5 0 0	—	...
80	Albion, t, Cornwall	100 0 0	—	...
12000	Assheton, l, Carnarvonshire*	5 0 0	... 1	... ¾ 1
50000	Ballycummisk,* c, Schull	2 0 0	—	...
13000	Bedford Unit.,* c, Tavist. (li. liab.)	0 1 0	... ¾	... ½ ¾
12000	Bell Yean, t, c, Gwennap	2 0 0	... 2	... 1½ 2
30000	Bettws-y-Coed,* l (20,000 issued)	1 0 0	... 1	... ¾ 1
8000	Blaen Caelan,* l, Cardigan	3 0 0	... 3¾	.. 3½ 3¾
3937	Blue Hills, t, c, St. Agnes	4 6 6	... ⅝	.. ½ ⅝
20000	Bodidris,* l, bl, Denbighshire	1 0 0	... 1⅝	...1¾ 1¾
1000	Bollihope Vale,* s-l, Durham	5 0 0	—	...
200	Botallack, t, c, St. Just	123 15 0	... 17½	... 15 17½
2000	Bowden Hill,* mn	1 0 0	... 1	... ⅜ 1
6000	Bradwell Moss Rake	1 0 0	... 1	... ⅜ 1
10 00	British,* s-l, Wrexham	3 0 0	... 3	... 2 3
256	Browngelly, c, St. Neot	0 10 0	... 1¾	... 1 1¾
20000	Bwlch United,* l (li. sh.) Cardigan	0 15 6	... 1⅝	... 1¾ 1⅝
60000	Cambrian,* s-l, c, Cardiganshire	2 0 0	... 2¾	... 2 2¾
20000	Central Foxdale, l, I. of Man* (2l. sh.)	1 5 0	—	...
10000	Central Van,* l, bl, Llanidloes	5 0 0	—	...
5120	Clementina, l, Llanrwst*	1 0 0	... 1¾	... 1 1¾
25000	Coed Mawr Pool,* l, Carnarvon	2 0 0	—	...
7800	Combellack,* t, Wendron	2 0 0	—	...
6000	Combmartin, s-l, North Devon	0 7 0	...	...
6400	Crookburn,* l, Cumberland	0 5 0	... ⅜	... ⅛
14000	Crosswood Mining Lands, l*	1 0 0	... 1½	... 1 1½
15000	Cwm Brwyno,* l, Cardigan	2 0 0	... 2¼	... 2 2¼
15000	Cwm Dwyfor,* c, s-l, Wales	1 0 0	—	...
5000	Ditto, 12½ per cent. pref.	1 0 0	—	...
3000	Cwmystwith* (New), l, Cardiganshi.	5 0 0	—	...
1580	D'Eresby Cons., l, bl, Carnarvon	10 0 0	... 8	... 6 8
1024	D'Eresby Mountain, l, bl, Llanrwst.	20 0 0	... 35	... 30 35
2000	Denbighshire Consolidated, l*	3 0 0	... 1¾	... 1½ 1¾
12000	Derwent,* l, Durham	4 0 0	... ¾	... ½ ¾
1 000	Dubby Syke, l, Durham*	0 15 0	... 4s.	... 4s.
6144	East Caradon, c, St. Cleer	3 2 0	... ⅛	... ⅜ ⅛
4000	East Chiverton, t, Perranzabuloe	7 12 6	... 1¾	... 1 1¾
3000	East Craven Moor*, l, Pateley Bdge	10 0 0	... 10	... 8 10
6000	East Goginan, l, Cardigan	2 0 0	—	...
30000	East Roman Gravels,* l, Salop	1 0 0	—	...
18000	East Van, s, Llanidloes*	5 0 0	... 1¾	... 1½ 1⅝
1722	East Wh. Lovell, t, Helston	9 16 0	... ⅜	... ⅛ 1
20000	Elgar,* s-l, Cardiganshire	1 0 0	—	...
12500	Frongoch, l, Cardigan (11000 issued).	2 0 0	... 1½	...1¾ 2¼
10000	Frosterley,* l, Durham	1 0 0	—	...
9950	Gawton, c, Tavistock	4 9 6	... ¾	... ⅛ ¾
12000	Glan Clwyd,* l, Gwyddelwern	1 0 0	—	...
14000	Glenroy,* s-l, Isle of Man	4 5 0	... ⅜	... ¼ ⅜
12000	Goginan, & Lvl. Newydd, s-l, Card.*	2 10 0	—	...
20000	Goren,* s-l, Carmarthen	1 0 0	... 1	... ¾ 1
20000	Great Dyliffe*, s-l., Montgomery	1 0 0	... 1⅛	... 1 1⅛
20000	Gt. E. Foxdale, l, I. of Man (1l. sh)	0 18 0	—	...
12000	Great Holway,* l, Flintshire	5 0 0	5	... 4½ 5
9500	Great Pant-y-Pydew, l, Holywell	2 0 0	—	...
6000	Gt. Wheal Eleanor, t, North Bovey	1 17 6	... ⅜	... ¼ ⅜
10000	Gwern-y-Mynydd*, s-l, Flintshire	5 0 0	... 4¾	... 4 4¾
10000	Harehope Gill,* t, Durham (£1 sh.)	0 6 0	—	...
1200	Hartington Moor,* carb. l, Derby	1 0 0	... 2	... 1½ 2
6400	Harwood,* l, Durham	0 15 0	...1s. 6d	... 1s 6d.
3000	Herodsfoot, l, near Liskeard†	1 0 0	... 3½	... 3 3½
10000	Hingston Down, c, Calstock*†	0 6 0	... ¾	... ½ ¾
5000	Hush Elateddfod Minera,* l	2 0 0	—	...
2500	Killaloe, s, Tipperary	1 0 0	—	...
4000	Killifreth, t, Chacewater	2 12 6	... 1¾	... 1¾ 1⅝
25000	Kingston Con., s-l, Stoke Climsland	1 0 0	—	...
	Ditto, preference	1 0 0	... 1⅛	... 1 1⅛
12000	Ladywell,* l, Salop	5 10 0	... ¾	... ½ ¾
12000	Ditto, 10 per cent. pref., 1l. each	0 10 0	... ⅝	... ½ ⅝
5000	Lead Era,* l, Mold	2 10 0	... 3¼	...2½ 3¼
2500	Levant, c, t, St. Just	10 14 6	—	...
6000	Livingstone Consols, t, St. Agnes	9 10 0	... ¾	... ¾
10000	Lomax, s-l, Perranzabuloe	1 0 0	... 1¼	... 1 1¼
5 20	Lovell, t, Wendron	0 16 0	... 2	... 1½ 2
25000	Llanrhaiadr, l, Montgomery*	2 0 0	—	...
20000	Llanrwst,* l, Carnarvon	2 0 0	... 2	... 1 2
1800	Mawston,* l, South Wales	1 0 0	... 2	... 1½ 2
6000	Medlyn Moor, t, Wendron	2 9 10	—	...
	Melynduwr, l, Cardigan*	3 0 0	... 1¾	... ¾ 1¾
7000	Mid Devon Copper*	0 6 8	—	...
21000	Ditto	0 2 6	—	...
8000	Mineral Corp. of Great Britain*	10 0 0	... 11	... 10 11
11000	Monydd Gorddu, l, Cardigan* (Red.)	5 0 0	... 5	... 3 5
12000	Morfa Du, s, g, s, Anglesea*	1 0 0	... ⅞	... ¾ ⅞
25000	Nant-y-Ronen, s-l, Cardigan*	1 0 0	—	...
15000	Nascent Copper*	1 0 0	—	...
4768	New Bronfloyd,* s, Cardigan (5l. sh.)	3 16 0	... 3	... 2½ 3
8000	New Dolcoath, t, c, Camborne*	3 0 0	... 1¾	...1½ 1¾
20000	New East Foxdale, s-l, Isle of Man.	0 15 0	—	...
1492	New Hendra, t, Breage	3 9 0	—	...
3500	New Tincroft,* t, Lelant	8 0 0	... 3	... 2½ 3
4000	North Cornwall,* l, Cornwall	5 0 0	... 5½	... 5 5½
10000	No. D'Eresby Mount.,* l, bl, Carnarv.	1 0 0	... 1¾	... 1 1¾
30000	North Laxey,* Isle of Man	1 0 0	4s.	... 2s. 4s.
2000	North Levant, t, c, St. Just	12 16 0	... ¾	... ½ ¾
50000	North Molton, c, mn, i, Devon	1 0 0	1	... 1
5936	North Treskerby, c, St. Agnes	3 17 10	—	...
6400	Oola Hills,* s-l, Limerick	5 0 0	—	...
12000	Pandora,* l, Carnarvon	2 0 0	... ¾	... ¾ ¾
6000	Park Valley,* s-l, North Devon	0 4 0	... ¾	... ½ ¾
6000	Parracombe, s l, Devon	0 5 0	... ¾	... ¼ ¾
16928	Parys Corporation,* c, Anglesea	2 0 0	... ½	... ¼ ½
12000	Pen-yr-Orsedd,* l, Flintshire	1 0 0	... 1¼	... 1 1¼
12000	Phœnix, & W. Phœnix, t, c, Link.	5 10 3	... 3½	... 3 3½
4000	Pateley Bridge, l, Yorkshire	5 0 0	... ¾	... ½ ¾
7000	Picton,* s-l, Holywell, fully paid	1 0 0	... ¾	... ½ ¾
6000	Plympton Mining and Arsenic*	1 0 0	... ¾	... ½ ¾
12000	Plynlimmon, l, Llanidloes*	2 0 0	... 2	... 1½ 2
10000	Port Nigel,* s-l, Carnarvonshire	2 0 0	4s.	... 4s. 4s.
2000	Prideaux Wood, t, Llanivery	5 0 0	... ½	... ¼ ½
5182	Prince of Wales, s, Calstock†	2 8 0	—	...
6000	Relistian Consols, c, Gwinear	0 10 0	6d.	... 6d.
5000	Rhydalun,* l, Mold	0 10 0	... ¾	... ½ ¾
15000	Rookhope, l, Durham*	10 0 0	... 11¼	...11 11¼
4200	Snowbrook, s-l, Montgomery	1 10 0	... ¾	... ½ ¾
6 000	So. Cwmystwith, l, Cardiganshire.	5 0 0	—	...
2 00	South Darren, l, Cardigan*	2 0 0	2	... 1 2
30000	South de Eresby Mountain,	1 10 0	... 1¾	... 1½ 1¾
6000	So. Devon United Copper*	1 0 0	... 1½	...1¾ 1¾
512	South Dolcoath, c, t, Redruth	1 0 0	... 1	... ¾ 1
5000	So. Molton Cons., s-l, No. Devon	12 5 0	—	...
18000	South Roman Gravels, l*	0 3 6	—	...
6000	South Roskear, t, c, Camborne	1 10 0	3s.	... 1s. 3s.
6000	South Tolcarne, t, c, Camborne	8 5 0	—	...
937	South Wheal Crofty, c, Illogan	2 8 0	... ⅜	... ⅛ ⅜
12000	Steddfa,* l, Cardigan	45 10 10	... 7½	... 7 7½
6000	St. Lawrence, Amal., l, Flintshire*	1 0 0	... 1¼	... 1 1¼
10000	St. Patrick, l, Halkin, Holywell*	2 0 0	—	...
6